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5.1 INTRODUCTION

This chapter describes existing travel behavior and patterns within the seven-county Southeastern Wisconsin Region, as determined by travel inventories conducted by the Commission in 2011. The forces shaping regional travel habits and patterns are also described, and the findings of the 2011¹ regional travel inventory are compared with those of the previous 2001, 1991, 1972, and 1963 regional travel inventories. A description of the major elements of the 2011 travel inventory along with the accuracy checks performed on the expanded survey data are documented in Appendix C to this report. The findings of the 1963, 1972, 1991, and 2001 regional inventories of travel were described in SEWRPC Planning Report No. 7, Volume One, *The Land Use Transportation Study: Inventory Findings: 1963*, May 1965; SEWRPC Planning Report No. 25, *A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000*, Volume One, *Inventory Findings*, April 1975, SEWRPC Planning Report No. 41, *A Regional Transportation Plan for Southeastern Wisconsin: 2010*, December, 1994, and SEWRPC Planning Report No. 49, *A Regional Transportation System Plan for Southeastern Wisconsin: 2035*, June 2006, respectively.

This chapter focuses on the Region's travel behavior and patterns, comparing the Commission's most recent travel survey to past surveys dating back to 1963.

¹ Although the most recent regional travel inventory was conducted from 2011 to 2012, this inventory has been designated the "2011" inventory for purposes of reference and of comparison to the 1963, 1972, 1991, and 2001 inventories.

5.2 INVENTORY FINDINGS

About 6.65 million person trips were made within the Region on an average weekday in 2011, 60% more than were made in 1963. Households and jobs increased at similar rates, but population only increased by 23%.

Quantity of Total Travel

An estimated 6.65 million person trips were made within the Region on an average weekday in 2011, as shown in Table 5.1.² This represents an increase of about 2.49 million person trips per weekday, or an increase of about 60 percent, since 1963; an increase of 1.52 million person trips per weekday, or 30 percent, since 1972; an increase of 0.49 million person trips per weekday, or 8 percent, since 1991; and a decrease of 0.10 million person trips per weekday, or 2 percent, since 2001. Of these 6.65 million person trips, about 6.24 million, or 94 percent, were internal person trips. Internal trips have both trip origin and trip destination within the Region. The 6.24 million internal person trips in 2011 represent an increase of 2.28 million trips, or 57 percent, since 1963; an increase of 1.30 million trips, or 26 percent, since 1972; an increase of 0.41 million trips, or 7 percent, since 1991; and a decrease of 0.11 million trips, or 2 percent, since 2001.

In 2011, an estimated 5.24 million vehicle trips, consisting of personal vehicle and commercial truck trips, were made within the Region on an average weekday. This represents an increase of 2.67 million vehicle trips, or 104 percent, since 1963, an increase of 1.84 million vehicle trips, or 54 percent, since 1972, an increase of 0.36 million trips or 8 percent since 1991, and a decrease of 0.23 million trips or 4.2 percent since 2001. Of the 5.24 million vehicle trips, about 4.87 million, or 93 percent, were internal vehicle trips. Internal vehicle trips increased by 2.41 million, or 98 percent, since 1963, by 1.60 million, or 49 percent, since 1972, by 0.27 million trips or 6 percent since 1991, and decreased by 0.24 million trips or 5 percent since 2001. Between 1963 and 2001, vehicle trips made within the Region increased faster than person trips, particularly between 1972 and 1991, principally as a result of a decline in automobile occupancy and carpooling. The percentage increase in vehicle trips between 1972 and 1991 was 44 percent, compared with 20 percent for person trips. Between 2001 and 2011 vehicle trips within the Region decreased faster than person trips, 5 percent versus 2 percent respectively, principally as a result of a modest increase in vehicle occupancy.

Table 5.1 also shows that an estimated 403,500 external person trips and 363,800 external vehicle trips were made in 2011. External trips have one end or both ends located outside of the Region. From 1963 to 2011, external travel increased by 212,100 person trips, or by about 111 percent; and by 262,200 vehicle trips, or by about 258 percent.

Over the past 50 years internal person trips have increased at pace with the number of households and jobs within the Region. Also affecting the level of internal person trips is household income, personal vehicle availability, age, and lifestyles. As shown in Table 5.2, between 1963 and 2011 internal person tripmaking increased by 56 percent, households increased by 67 percent, and employment increased by 68 percent. Between 2001 and 2011 employment declined 1.0 percent and internal person trips declined 2.8

² A person trip is defined as a one-way journey between a point of origin and a point of destination by a person five years of age or older traveling by public transit, school bus, bicycle, or walking or as a driver or as a passenger in a personal vehicle—automobile, van, pickup truck, sport utility vehicle—or taxi or motorcycle. To be considered, the trip must have been at least the equivalent of one full city block in length. The 1963, 1972, and 1991 surveys did not inventory walk and bicycle trips for non-work purposes. The 2001 and 2011 surveys did inventory walk and bicycle trips for all purposes, both work and non-work.

**Table 5.1
Average Weekday Person and Vehicle Trips by Trip Type: 1963, 1972, 1991, 2001, and 2011^a**

Trip Type	Person Trips									
	1963		1972		1991		2001		2011	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Region Resident Internal Person Trips	3,969,700	95.4	4,947,500	96.5	5,839,100	94.8	6,355,200	94.1	6,244,800	93.9
External Person Trips	191,700	4.6	176,900	3.5	317,400	5.2	394,900	5.9	403,800	6.1
Total	4,161,400	100.0	5,124,400	100.0	6,156,500	100.0	6,750,100	100.0	6,648,600	100.0
Trip Type	Vehicle Trips									
	1963		1972		1991		2001		2011	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Region Resident Personal Vehicle and Commercial Truck Trips	2,459,400	96.0	3,268,000	96.3	4,597,600	94.4	5,109,200	93.5	4,871,500	93.1
External Personal Vehicle and Commercial Truck Trips	101,600	4.0	125,700	3.7	273,300	5.6	357,500	6.5	363,800	6.9
Total	2,561,000	100.0	3,393,700	100.0	4,870,900	100.0	5,466,700	100.0	5,235,300	100.0
Trip Type	Person Trips									
	Change: 1963 -2011		Change: 1972-2011		Change: 1991-2011		Change: 2001-2011			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent		
Region Resident Internal Person Trips	2,275,100	57.3	1,297,300	26.2	405,700	6.9	-110,400	-1.7		
External Person Trips	212,100	110.6	226,900	128.3	86,400	27.2	8,900	2.3		
Total	2,487,200	59.8	1,524,200	29.7	492,100	8.0	-101,500	-1.5		
Trip Type	Vehicle Trips									
	Change: 1963 -2011		Change: 1972-2011		Change: 1991-2011		Change: 2001-2011			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent		
Region Resident Personal Vehicle and Commercial Truck Trips	2,412,100	98.1	1,603,500	49.1	273,900	6.0	-237,700	-4.7		
External Personal Vehicle and Commercial Truck Trips	262,200	258.1	238,100	189.4	90,500	33.1	6,300	1.8		
Total	2,674,300	104.4	1,841,600	54.3	364,400	7.5	-231,400	-4.2		

^a Internal person trips as shown in this table include trips made internal to the Region on an average weekday by the resident households and group-quartered persons of the Region. They include trips made by personal vehicle—automobile, van, truck, or sport utility vehicle—either as a driver or passenger, public transit, school bus, motorcycle, taxi, bicycle, and walking. All trips shown in this table were estimated from Commission travel surveys with the exception of trips by bicycle and walking for other than work purposes for the years 1963, 1972, and 1991. Only the 2001 and 2011 survey gathered data on all bicycle and walking trips, with previous surveys in 1963, 1972, and 1991 gathering data only for work trips. In 2011, the estimated number of Region resident internal person trips made by bicycle or walking on an average weekday within Southeastern Wisconsin totaled 520,600 trips, including 72,100 trips to and from work. In 2001, they totaled 297,300 trips, including 40,200 trips to and from work. Estimates of average weekday internal trips made by the Region's households by bicycle or walking for work trip purposes totaled 33,600 trips in 1991, 58,800 in 1972, and 47,000 in 1963. Bicycle and walking non-work trips were estimated for the years 1963, 1972, and 1991 assuming that non-work trips would represent 87 percent of all bicycle and walking trips, as estimated in the year 2001 survey.

The external person trips shown in this table only include trips made by personal vehicle, which have consistently represented 95 percent of estimated total external person trips within Southeastern Wisconsin on an average weekday. Estimated external person trips by other modes of intercity bus and rail, cross-lake ferry, and commercial air carrier totaled on an average weekday 9,800 trips in 1963, 9,100 trips in 1972, 15,700 trips in 1991, 19,500 trips in 2001, and 23,500 trips in 2011.

Source: SEWRPC

percent. This reduction in person trips occurred even though the number of households and population each increased by 6 percent. Through 2001, the number of internal person trips per household in the Region had remained relatively constant at about eight trips per household. Between 2001 and 2011, the number of trips per household declined to about seven trips per household. The decline in employment and in median family income likely contributed to this reduction.

Overall, the increase in person trips far exceeded the 23 percent increase in population between 1963 and 2011. The number of internal trips per person in the Region increased from 2.4 trips per person in 1963 to 3.1 trips per person in 2011. The Region's population has changed over the past 50 years, including the substantial increase in the proportion of the Region's population in the labor force—principally due to the increase of women in the labor force—and the significant changes that occurred in household formation and composition.

Internal Person Travel

The number of internal person trips made on an average weekday by the resident households of the Region may be correlated with household vehicle availability, size, and income.

Relationship of Vehicle Availability

A strong correlation exists between person trip production and the number of vehicles available to households. The 2011 survey findings indicated that about 1,371,900 vehicles were available in the Region. This represents an average of 1.71 vehicles per household, as compared to 1.07 vehicles per household in 1963, 1.24 vehicles per household, in 1972, 1.60 vehicles per household in 1991, and 1.73 vehicles per household in 2001.

Table 5.3 shows the relationship of vehicle availability to person trip production in the Region. Household person trip production increases sharply in relation to increased vehicle availability. From 1963 to 1991, household vehicle availability increased substantially. From 1963 to 1991, the percentage of households with two or more automobiles increased from 24 percent to 56 percent of all households, the percentage of households with zero automobiles declined from 17 percent to 9 percent of all households, and the percentage with one automobile declined from 59 percent to 35 percent of all households. From 1991 to 2011, the percentage of households with zero, one, or two or more vehicles available experienced minimal change. The increase in household vehicle availability from 1963 to 2011 likely contributed to the increase in person trips generated within the Region since 1963.

Relationship of Household Size

Person trip production within the Region is also strongly related to the number of persons comprising the household. Table 5.4 indicates that in 2011 one-person households averaged about three weekday internal person trips per household, two-person households averaged about six such trips per household, three-person households averaged about nine such trips per household, four-person households averaged about 11 such trips per household, and five- or more-person households averaged about 14 such trips per household. The distribution of the number of households by household size changed markedly from 1963 to 1991 with one-person households increasing from 11 percent of all households in 1963 to 25 percent in 1991, and five- or more-person households decreasing from 25 percent to 11 percent of all households during the same period. The distribution of

The number of vehicles available is strongly correlated with person trip production. In 2011, there were about 1.37 million vehicles available in the Region.

**Table 5.2
Comparison of Historic Regional Internal Person Trips, Households, Employment,
Population, and Income: 1963, 1972, 1991, 2001, and 2011^a**

	1963	1972	1991	2001	2011	Percent Change 1963-2011	Percent Change 1972-2011	Percent Change 1991-2011	Percent Change 2001-2011
Internal Person Trips									
Internal Person Trips	3,933,100	4,917,300	5,755,700	6,327,000	6,152,900	56.4	25.1	6.9	-2.8
Households	481,200	557,300	676,100	759,500	802,000	66.7	43.9	18.6	5.6
Employment (jobs)	706,600	802,500	1,058,200	1,197,000	1,184,500	67.6	47.6	11.9	-1.0
Population ^b	1,636,300	1,750,500	1,780,300	1,899,300	2,011,300	22.9	14.9	13.0	5.9
Median Family Income (2010 Dollars) ^c	--	66,100	66,800	73,500	65,400	--	-1.1	-2.1	-11.0

^a Internal person trips as shown in this table include trips made internal to the Region on an average weekday by the resident households of the Region. They include trips made by personal vehicle—automobile, van, truck, or sport utility vehicle—either as a driver or passenger, public transit, school bus, motorcycle, taxi, bicycle, and walking. All trips shown in this table were estimated from Commission travel surveys with the exception of trips by bicycle and walking for other than work purposes for the year 1963, 1972, and 1991. Only the 2001 and 2011 surveys gathered data on all bicycle and walking trips, with previous surveys in 1963, 1972, and 1991 gathering this data only for work trips. In 2011, the estimated number of resident household internal person trips made by bicycle or walking on an average weekday within southeastern Wisconsin totaled 463,500 trips, including 69,300 trips to and from work. In 2001, they totaled 295,700 trips, including 40,000 trips to and from work. Estimates of average weekday internal trips made by the Region's households by bicycle or walking for work trip purposes totaled 33,600 trips in 1991, 58,800 in 1972, and 47,000 in 1963. Bicycle and walking non-work trips were estimated for the years 1963, 1972, and 1991 assuming that non-work trips would represent 87 percent of all bicycle and walking trips, as estimated in the year 2001 survey.

The internal person trips shown in this table also only include trips made by the Region's households, and not by group-quartered persons in the Region. Group-quartered person trips within the Region were estimated to total 36,600 trips in 1963, 30,200 trips in 1972, 83,400 trips in 1991, 28,200 trips in 2001, and 91,900 trips in 2011, or only about 1 percent or less of the total internal person trips made by the residents of the Region on an average weekday.

^b Does not include regional group-quartered population.

^c Median family income estimate for the year 1969 applied to the year 1972, for the year 1989 applied to the year 1991, for the year 1999 applied to the year 2001, and the year 2010 applied to the year 2011.

Source: SEWRPC

Table 5.3
Average Weekday Internal Person Trips per Household in the Region
by Vehicle Availability: 1963, 1972, 1991, 2001, and 2011^a

Vehicle Available		Households		Person Trips		Person Trips per Household
		Number	Percent of Total	Number	Percent of Total	
1963	None	83,400	17.3	188,200	5.2	2.3
	One	282,000	58.6	2,097,000	58.5	7.4
	Two	102,700	21.4	1,120,800	31.3	10.9
	Three or More	13,100	2.7	177,400	5.0	13.5
	Total	481,400	100.0	3,583,400	100.0	7.4
1972	None	88,500	15.9	171,400	3.8	1.9
	One	276,300	49.6	1,953,300	43.6	7.1
	Two	160,900	28.9	1,848,700	41.3	11.5
	Three or More	316,000	5.6	506,400	11.3	16.0
	Total	557,300	100.0	4,479,800	100.0	8.0
1991	None	61,900	9.1	156,300	2.8	2.5
	One	233,800	34.6	1,292,000	23.5	5.5
	Two	281,200	41.6	2,801,800	50.9	10.0
	Three or More	99,300	14.7	1,255,600	22.8	12.6
	Total	676,100	100.0	5,505,600	100.0	8.1
2001	None	64,300	8.5	161,000	2.7	2.5
	One	267,500	35.2	1,588,300	26.3	5.9
	Two	294,200	38.7	2,787,000	46.2	9.5
	Three or More	133,500	17.6	1,495,000	24.8	11.2
	Total	759,500	100.0	6,031,300	100.0	7.9
2011	None	71,800	9.0	205,900	3.6	2.9
	One	283,200	35.3	1,389,000	24.4	4.9
	Two	313,700	39.1	2,670,700	46.9	8.5
	Three or More	133,300	16.6	1,423,800	25.0	10.7
	Total	802,000	100.0	5,689,400	100.0	7.1

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1963, 1972, and 1991.

Source: SEWRPC

the number of households by household size changed minimally between 1991 and 2011, with continuing small increases in the percentages of one- and two-person households and small decreases in the percentages of households with three or more persons. The decline in household size from 1963 to 2011 likely contributed to the increase in internal person trips in the Region over the same period, as the attendant increase in households outweighed the decline in the number of households of larger sizes.

Mode of Internal Person Trips

The year 2011 survey findings as shown in Table 5.5 indicate that internal travel within Southeastern Wisconsin by resident households on an average weekday in 2011 is predominately by personal vehicle, representing 86 percent of weekday travel. Walk and bicycle travel represent the next largest percentage of internal weekday travel by resident households of the Region at about 8 percent, followed by travel by school bus of about 3 percent, public transit of about 2 percent, and other travel modes including taxi and motorcycle of less than 1 percent.

The proportion of travel by mode changed significantly between 1963 and 2011. The most significant change in personal vehicle travel occurred between 1963 and 1991, as personal vehicle travel increased from 80 to 89 percent of all travel, and travel by personal vehicle drivers increased from 55 to 71 percent of all travel. Also, travel by walking and bicycle declined from 9 percent of all travel in 1972 to 4 percent of all travel in 1991. Travel by

Internal travel on an average weekday in 2011 was mostly by personal vehicle (86%), followed by walk and bicycle (8%), school bus (3%), public transit (2%), and other (<1%).

Table 5.4
Average Weekday Internal Person Trips per Household in the Region
by Household Size: 1963, 1972, 1991, 2001, and 2011^a

	Household Size	Households		Person Trips		Person Trips per Household
		Number	Percent of Total	Number	Percent of Total	
1963	One	52,000	10.8	106,500	3.0	2.0
	Two	135,100	28.1	681,400	19.0	5.0
	Three	87,500	18.2	666,000	18.6	7.6
	Four	83,700	17.4	805,900	22.5	9.6
	Five or More	122,900	25.5	1,323,600	36.9	10.8
	Total	481,200	100.0	3,583,400	100.0	7.4
1972	One	93,800	16.8	223,500	5.0	2.4
	Two	159,500	28.6	892,900	19.9	5.6
	Three	91,900	16.5	760,200	17.0	8.3
	Four	86,300	15.5	903,100	20.1	10.5
	Five or More	125,800	22.6	1,700,100	38.0	13.5
	Total	557,300	100.0	4,479,800	100.0	8.0
1991	One	168,700	24.9	565,500	10.3	3.4
	Two	214,100	31.7	1,526,100	27.7	7.1
	Three	116,100	17.2	1,075,700	19.5	9.3
	Four	104,300	15.4	1,282,900	23.3	12.3
	Five or More	72,900	10.8	1,055,500	19.2	14.5
	Total	676,100	100.0	5,505,700	100.0	8.1
2001	One	211,100	27.8	810,100	13.4	3.8
	Two	247,300	32.6	1,769,800	29.3	7.2
	Three	118,900	15.7	1,104,600	18.3	9.3
	Four	106,400	14.0	1,249,300	20.7	11.7
	Five or More	75,800	10.0	1,097,500	18.2	14.5
	Total	759,500	100.0	6,031,300	100.0	7.9
2011	One	233,400	29.1	736,200	12.9	3.2
	Two	265,900	33.2	1,623,600	28.5	6.1
	Three	123,700	15.4	1,057,100	18.6	8.5
	Four	102,900	12.8	1,173,300	20.6	11.4
	Five or More	76,100	9.5	1,099,200	19.3	14.4
	Total	802,000	100.0	5,689,400	100.0	7.1

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1963, 1972, and 1991.

Source: SEWRPC

walking and bicycling showed an increase in 2001 to 5 percent of all travel, and increased again by 2011 to 8 percent of all travel.

The largest change in public transit travel occurred between 1963 and 1972, as public transit travel declined from 8 percent to 4 percent of total weekday internal travel by resident households. Since 1972 travel by transit continued to decline modestly, representing 2 percent of personal travel in 2011.

The proportion of total weekday internal travel by the Region's households by school bus has remained relatively constant from 1963 to 2011 at 3 to 4 percent, and also for other modes including taxi and motorcycle at less than 1 percent.

Public Transit Trip Production

The relationships of public transit trip-making to vehicle ownership and household size, are shown in Tables 5.6 and 5.7. In 1963, 1972, 1991, and 2001 households without a personal vehicle for travel accounted for 39 to 44 percent of all trips made on public transit on an average weekday. In 2011, households without a personal vehicle for travel accounted for over 64

Table 5.5

Distribution of Average Weekday Internal Person Trips by Households in the Region by Mode of Travel: 1963, 1972, 1991, 2001, and 2011

Mode of Travel	Person Trips														
	1963			1972			1991			2001			2011		
	Number	Percent of Total	Percent of Total	Number	Percent of Total	Percent of Total	Number	Percent of Total	Percent of Total	Number	Percent of Total	Percent of Total	Number	Percent of Total	Percent of Total
Auto Driver	2,156,700	54.8	58.7	2,884,900	70.6	70.6	4,060,800	71.2	71.2	4,507,400	71.2	71.2	4,153,300	67.5	67.5
Auto Passenger	978,100	24.9	24.8	1,217,100	30.7	30.7	1,029,800	17.9	17.9	1,130,800	17.9	17.9	1,160,200	18.9	18.9
Public Transit	320,500	8.1	3.7	184,200	4.7	4.7	172,200	3.0	3.0	142,200	2.2	2.2	129,100	2.1	2.1
School Bus	119,900	3.1	3.5	173,600	4.4	4.4	228,600	4.0	4.0	227,400	3.6	3.6	205,900	3.3	3.3
Walk and Bicycle	349,700	8.9	8.9	437,500	11.2	11.2	250,000	4.3	4.3	295,700	4.7	4.7	463,500	7.5	7.5
Other ^a	8,200	0.2	0.4	20,000	0.5	0.5	14,300	0.2	0.2	23,500	0.4	0.4	40,900	0.7	0.7
Total	3,933,100	100.0	100.0	4,917,300	100.0	100.0	5,755,700	100.0	100.0	6,327,000	100.0	100.0	6,152,900	100.0	100.0

Mode of Travel	Person Trips											
	Change: 1963-2011			Change: 1972-2011			Change: 1991-2011			Change: 2001-2011		
	Number	Percent	Percent	Number	Percent	Percent	Number	Percent	Percent	Number	Percent	Percent
Auto Driver	1,996,600	92.6	92.6	1,268,400	44.0	44.0	92,500	2.3	2.3	-354,100	-7.9	-7.9
Auto Passenger	182,100	18.6	18.6	-56,900	-4.7	-4.7	130,400	12.7	12.7	29,400	2.6	2.6
Public Transit	-191,400	-59.7	-59.7	-55,100	-29.9	-29.9	-43,100	-25.0	-25.0	-13,100	-9.2	-9.2
School Bus	86,000	71.7	71.7	32,300	18.6	18.6	-22,700	-9.9	-9.9	-21,500	-9.5	-9.5
Walk and Bicycle	113,800	32.5	32.5	26,000	5.9	5.9	213,500	85.4	85.4	167,800	56.7	56.7
Other ^a	32,700	398.8	398.8	20,900	104.5	104.5	26,600	186.0	186.0	17,400	74.0	74.0
Total	2,219,800	56.4	56.4	1,235,600	25.1	25.1	397,200	6.9	6.9	-174,100	-2.8	-2.8

^a Includes motorcycle and taxi.

Source: SEWRPC

Table 5.6
Average Weekday Internal Transit Trips per Household in the Region
by Vehicle Availability: 1963, 1972, 1991, 2001, and 2011^a

Vehicle Available		Households		Transit Trips		Transit Person Trips per Household	Percent of Total Trips Made on Public Transit
		Number	Percent of Total	Number	Percent of Total		
1963	None	83,400	17.3	124,100	38.7	1.49	65.9
	One	282,000	58.6	154,800	48.3	0.55	7.4
	Two	102,700	21.4	37,600	11.7	0.37	3.4
	Three or More	13,100	2.7	4,000	1.3	0.31	2.3
	Total	481,200	100.0	320,500	100.0	0.67	8.9
1972	None	88,500	15.9	73,000	39.6	0.82	42.6
	One	276,300	49.6	73,800	40.1	0.27	3.8
	Two	160,900	28.9	30,600	16.6	0.19	1.7
	Three or More	31,600	5.6	6,800	3.7	0.22	1.3
	Total	557,300	100.0	184,200	100.0	0.27	4.1
1991	None	61,900	9.1	74,700	43.4	1.21	47.8
	One	233,800	34.6	46,400	26.9	0.19	3.6
	Two	281,100	41.6	36,100	21.0	0.13	1.3
	Three or More	99,300	14.7	15,000	8.7	0.15	1.2
	Total	676,100	100.0	172,200	100.0	0.25	3.1
2001	None	64,300	8.5	63,000	44.3	0.98	39.1
	One	267,500	35.2	37,000	26.0	0.14	2.3
	Two	294,200	38.7	29,300	20.6	0.10	1.1
	Three or More	133,500	17.6	12,900	9.1	0.10	0.9
	Total	759,500	100.0	142,200	100.0	0.19	2.4
2011	None	71,800	9.0	82,700	64.1	1.15	40.2
	One	283,200	35.3	25,500	19.8	0.09	1.8
	Two	313,700	39.1	12,400	9.6	0.04	0.5
	Three or More	133,300	16.6	8,500	6.6	0.06	0.6
	Total	802,000	100.0	129,100	100.0	0.16	2.3

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1963, 1972, and 1991.

Source: SEWRPC

percent of weekday transit travel. Households owning one or two personal vehicles accounted for 47 to 60 percent of total weekday transit trips from 1963 to 2001, but only 29 percent in 2011.

Household size is not nearly as strongly correlated with transit trip-making as household vehicle ownership. The average number of transit trips per household generally increases with household size, but the average number of transit trips per person generally is greater for smaller household sizes.

Purposes of Internal Trips

Table 5.8 displays by trip purpose the current and historic internal trips made by resident households of the Region on an average weekday. Most trips made on an average weekday are home-based trips, with home being either the origin or destination of the trips.

The percentage distributions of the purposes of weekday internal person trips have remained stable from 1963 to 2011. During this period, home-based work trips comprised between 22 and 25 percent of all such trips; home-based shopping trips, between 11 and 15 percent; home-based trips in other categories, between 30 and 34 percent; nonhome-based trips, between 18 and 23 percent; and school trips, between 9 and 13 percent. These percentage distributions remained stable over five decades despite

The percent of transit trips by households without access to a car increased significantly from 2001 (44%) to 2011 (64%).

Table 5.7
Average Weekday Internal Transit Trips per Household in the Region
by Household Size: 1963, 1972, 1991, 2001, and 2011^a

	Household Size	Households		Transit Trips		Transit Person Trips per Household	Average Transit Trips per Person	Percent of Total Trips Made on Public Transit
		Number	Percent of Total	Number	Percent of Total			
1963	One	52,000	10.8	31,800	9.9	0.61	0.61	29.9
	Two	135,100	28.1	77,900	24.3	0.58	0.29	11.4
	Three	87,500	18.2	64,300	20.1	0.73	0.24	9.7
	Four	83,700	17.4	51,700	16.1	0.62	0.15	6.4
	Five or More	122,900	25.5	94,800	29.6	0.77	0.13	7.2
	Total	481,200	100.0	320,500	100.0	0.67	0.09	8.9
1972	One	93,800	16.8	27,300	14.8	0.29	0.29	12.2
	Two	159,500	28.6	37,500	20.3	0.24	0.12	4.2
	Three	91,900	16.5	27,200	14.8	0.30	0.15	3.6
	Four	86,300	15.5	30,700	16.7	0.36	0.09	3.4
	Five or More	125,800	22.6	61,500	33.4	0.49	0.08	3.6
	Total	557,300	100.0	184,200	100.0	0.33	0.04	4.1
1991	One	168,700	25.0	26,900	15.6	0.16	0.16	4.8
	Two	214,100	31.7	26,700	15.5	0.12	0.06	1.7
	Three	116,100	17.2	34,200	19.9	0.29	0.09	3.2
	Four	104,300	15.4	36,100	21.0	0.35	0.09	2.8
	Five or More	72,900	10.8	48,300	28.0	0.66	0.12	4.6
	Total	676,100	100.0	172,200	100.0	0.25	0.03	3.1
2001	One	211,100	27.8	36,200	25.4	0.17	0.17	4.5
	Two	247,300	32.5	36,100	25.4	0.15	0.07	2.0
	Three	118,900	15.7	25,400	17.9	0.21	0.07	2.3
	Four	106,400	14.0	18,700	13.2	0.18	0.04	1.5
	Five or More	75,800	10.0	25,800	18.1	0.34	0.06	2.3
	Total	759,500	100.0	142,200	100.0	0.19	0.08	2.4
2011	One	233,400	29.1	34,200	26.5	0.15	0.15	4.6
	Two	265,900	33.2	28,700	22.2	0.11	0.06	1.8
	Three	123,700	15.4	20,500	15.9	0.17	0.06	1.9
	Four	102,900	12.8	21,000	16.3	0.20	0.05	1.8
	Five or More	76,100	9.5	24,700	19.1	0.32	0.05	2.2
	Total	802,000	100.0	129,100	100.0	0.16	0.06	2.3

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1963, 1972, and 1991.

Source: SEWRPC

substantial increases in the absolute numbers of trips in all categories. Home-based trips, typically used for work, shopping and other purposes, declined between 11 and 15 percent between 2001 and 2011; however, nonhome-based and school tripmaking (including nonhome-based school) increased between 8 and 15 percent. The decreases in home-based tripmaking are likely attributed to the loss in employment and household income, and increased trip chaining, as indicated by increases in nonhome-based travel including nonhome-based school trips.

Trip Length

As shown in Table 5.9, the average trip length of trips made within the Region on an average weekday by the Region’s resident households, measured in terms of distance, increased between 2001 and 2011 by about 4 percent. Between 1963 and 1972—a period of just less than 10 years—the increase in average trip length was about 15 percent and between 1972 and 2001 average trip length increased by about 8 percent per decade. From 2001 to 2011 the increase in trip length was almost entirely due to the increase in the length of work trips of 12 percent.

Residents on average drive nearly twice as far as they did 50 years ago—6.1 miles in 1963 compared to 11.0 miles in 2011.

Table 5.8
Distribution of Average Weekday Internal Household Person Trips in the Region by Trip Purpose: 1963, 1972, 1991, 2001, and 2011^a

Trip Purpose ^b	Person Trips											
	1963		1972		1991		2001		2011			
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Home-Based Work	890,700	24.9	1,062,600	23.7	1,269,100	23.1	1,435,300	23.8	1,273,600	22.4		
Home-Based Shopping	543,800	15.2	675,000	15.1	798,000	14.5	761,600	12.6	651,100	11.4		
Home-Based Other	1,188,600	33.1	1,541,200	34.4	1,687,300	30.6	1,962,500	32.5	1,701,300	29.9		
Nonhome-Based	647,600	18.1	783,500	17.5	1,125,900	20.4	1,215,000	20.2	1,307,400	23.0		
School	312,700	8.7	417,500	9.3	625,400	11.4	656,900	10.9	755,900	13.3		
Total	3,583,400	100.0	4,479,800	100.0	5,505,700	100.0	6,031,300	100.0	5,689,300	100.0		

Trip Purpose ^b	Person Trips											
	Change: 1963-2011		Change: 1972-2011		Change: 1991-2011		Change: 2001-2011 ^c					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Home-Based Work	382,900	43.0	211,000	19.9	4,500	0.4	-161,700	-11.3				
Home-Based Shopping	107,300	19.7	-23,900	-3.5	-146,900	-18.4	-110,500	-14.5				
Home-Based Other	512,700	43.1	160,100	10.4	14,000	0.8	-261,200	-13.3				
Nonhome-Based	659,800	101.9	523,900	66.9	181,500	16.1	92,400	7.6				
School	443,200	141.7	338,400	81.1	130,500	20.9	99,000	15.1				
Total	2,105,900	58.8	1,209,500	27.0	183,600	3.3	-342,000	-5.7				

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1963, 1972, and 1991.

^b A home-based trip is a trip with either the origin or destination being the traveler's home. A nonhome-based trip has neither the origin nor destination being the home. A school trip is any trip by a student for which the purpose of the trip at its origin or destination is to attend school.

^c The decline in tripmaking from 2001 to 2011 is overstated in this table as it does not include bicycle and walking trips, which increased from an estimated 295,700 trips in 2001 to 463,500 trips in 2011.

Source: SEWRPC

Table 5.9

Average Trip Lengths and Times for Internal Household Person Trips in the Region by Trip Purpose: 1963, 1972, 1991, 2001, and 2011

Trip Purpose	1963 Trip Length		1972 Trip Length		1991 Trip Length		2001 Trip Length		2011 Trip Length	
	Minutes	Miles	Minutes	Miles	Minutes	Miles	Minutes	Miles	Minutes	Miles
Home-Based Work	18.5	6.1	16.1	7.5	16.9	9.1	19.1	9.8	19.6	11.0
Home-Based Shopping	9.7	3.3	9.6	4.0	9.1	4.3	9.6	4.7	9.8	4.8
Home-Based Other	12.7	4.6	11.6	4.9	10.9	5.4	11.6	6.0	11.3	5.9
Nonhome-Based	13.0	4.0	12.4	4.9	11.6	5.7	12.3	5.9	11.7	6.2
Average	13.8	4.7	12.6	5.4	12.3	6.3	13.7	6.8	13.3	7.1

Trip Purpose	1963-2011		1972-2011		1991-2011		2001-2011	
	Minutes	Miles	Minutes	Miles	Minutes	Miles	Minutes	Miles
Home-Based Work	5.7	79.8	21.5	46.3	15.7	20.5	2.4	11.9
Home-Based Shopping	0.5	46.1	1.6	20.5	7.1	12.1	1.6	2.6
Home-Based Other	-11.4	28.0	-3.0	20.2	3.2	9.1	-3.0	-1.8
Nonhome-Based	-10.2	54.8	-5.9	26.3	0.6	8.6	-5.1	4.9
Average	-3.6	51.9	5.6	32.2	8.2	13.3	-2.8	5.0

Source: SEWRPC

Table 5.10**Average Personal Vehicle Occupancy of Average Weekday Household Internal Trips in the Region by Selected Trip Purpose: 1963, 1972, 1991, 2001, and 2011**

Year	Average Personal Vehicle Occupancy by Selected Trip Purpose (Number of Persons)				
	Home-Based Work	Home-Based Shopping	Home-Based Other	Nonhome-Based	Total Travel
1963	1.21	1.53	1.58	1.34	1.42
1972	1.17	1.47	1.54	1.38	1.39
1991	1.06	1.27	1.34	1.20	1.22
2001	1.05	1.22	1.32	1.18	1.19
2011	1.06	1.25	1.31	1.19	1.20

Source: SEWRPC

With respect to trip length measured in terms of travel time, a decline of about 9 percent was estimated to have occurred between 1963 and 1972, followed by a modest decline of 2 percent between 1972 and 1991, an increase of 11 percent between 1991 and 2001, and a modest decline of 3 percent between 2001 and 2011. The reduction in travel time may be attributed to capacity improvements implemented since 2001 as well as modest decline in congestion due to the decline in internal personal travel.

Average Personal Vehicle Occupancy by Selected Trip Purpose

Average personal vehicle occupancy represents the number of persons per vehicle for vehicle trips, or carpooling. Declines in vehicle occupancy represent corresponding increases in vehicle trips. The overall average number of persons per vehicle, including the driver, declined slightly from 1963 to 1972, from 1.42 to 1.39, as shown in Table 5.10. From 1972 to 1991, however, the overall occupancy rate decreased substantially by 12 percent, from 1.39 to 1.22 persons per vehicle, with significant declines in every trip purpose. From 1991 to 2001 average personal vehicle occupancy experienced another slight decline of about 3 percent from 1.22 to 1.19 persons per vehicle. From 2001 to 2011 average personal vehicle occupancy experienced a modest increase of approximately 1 percent from 1.19 to 1.20 persons per vehicle.

Hourly Patterns of Internal Person Travel

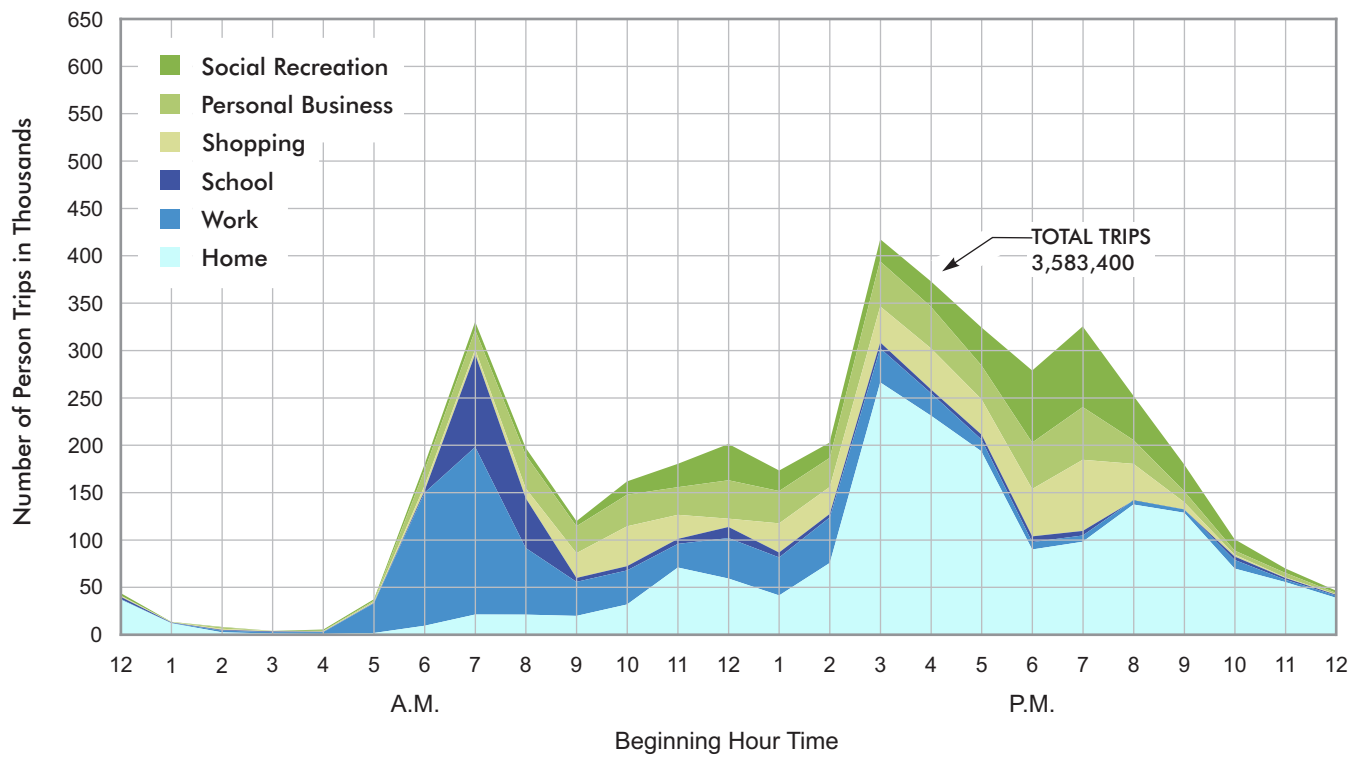
The hourly distributional patterns of internal person trips indicated that although total person trip volumes increased substantially on an average weekday from 1963 to 2011, the regular ebb and flow of travel remained very similar both in the proportion of trips by trip purpose and in the proportion and times of peak periods (see Figures 5.1, 5.2, 5.3, 5.4, and 5.5). Approximately 35 percent of daily travel within the Region occurred in the two morning and two afternoon peak hours of the day in each survey year. Of these peak hour movements, trips to and from work comprised 47 percent of the total in 1963, 44 percent in 1972, and 41 percent in 1991, 39 percent in 2001, and 39 percent in 2011. These findings continue to indicate that one of the primary transportation problems within the Region continues to be meeting the peak demand of the journeys to and from work.

About 35% of daily travel in each survey year has occurred in the morning and afternoon peak periods.

County-to-County Trip Patterns

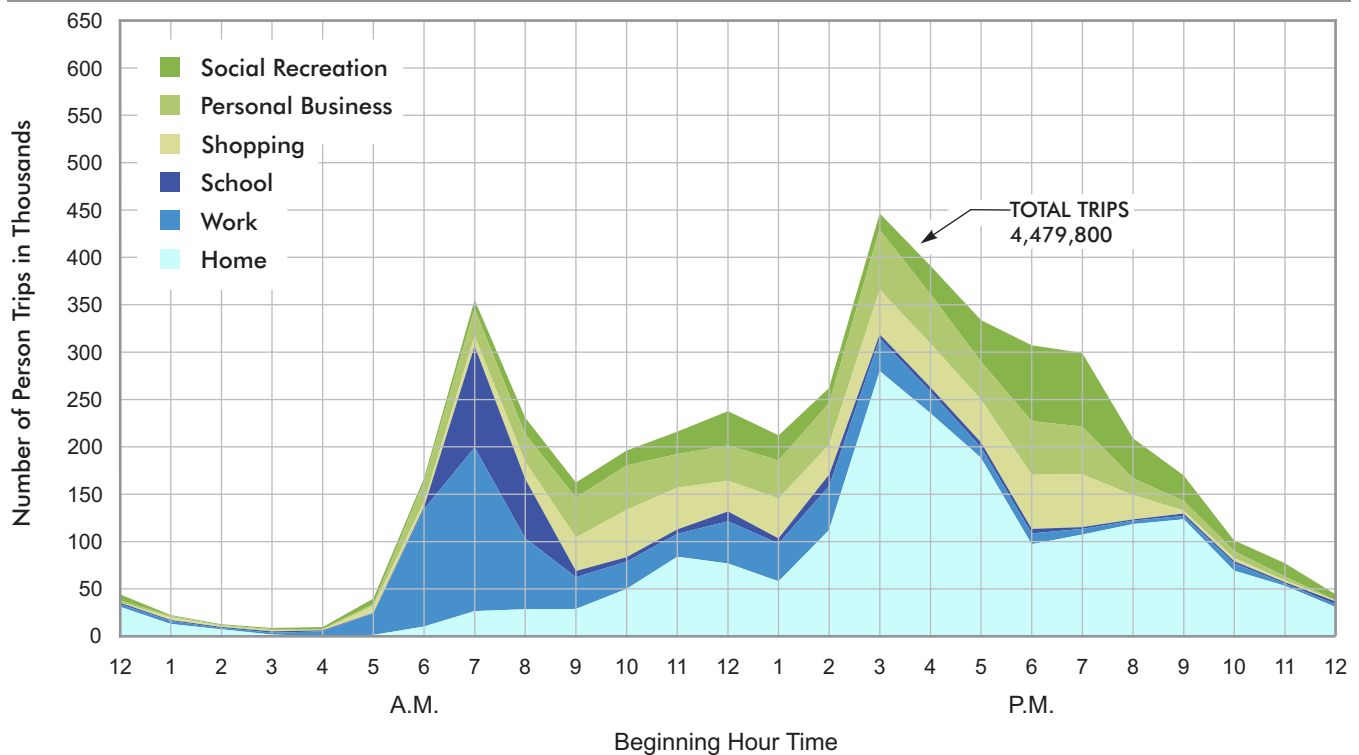
Map 5.1 and Table 5.11 show the magnitude of intra- and inter-county travel within the Region, excluding school trips, on an average weekday in 1963, 1972, 1991, 2001, and 2011. Trips are shown in produced-attracted format—that is, from area of production to area of attraction. The production county for a trip having one end at “home”, that is either beginning at or ending at home, is the county location of the “home” and the attraction county is the “non-home” end county location for that trip. The production county for trips having neither end at “home” is the county location of the trip

Figure 5.1
Hourly Variation of Average Weekday Internal Person Trips in
the Region by Trip Purpose at Destination: 1963



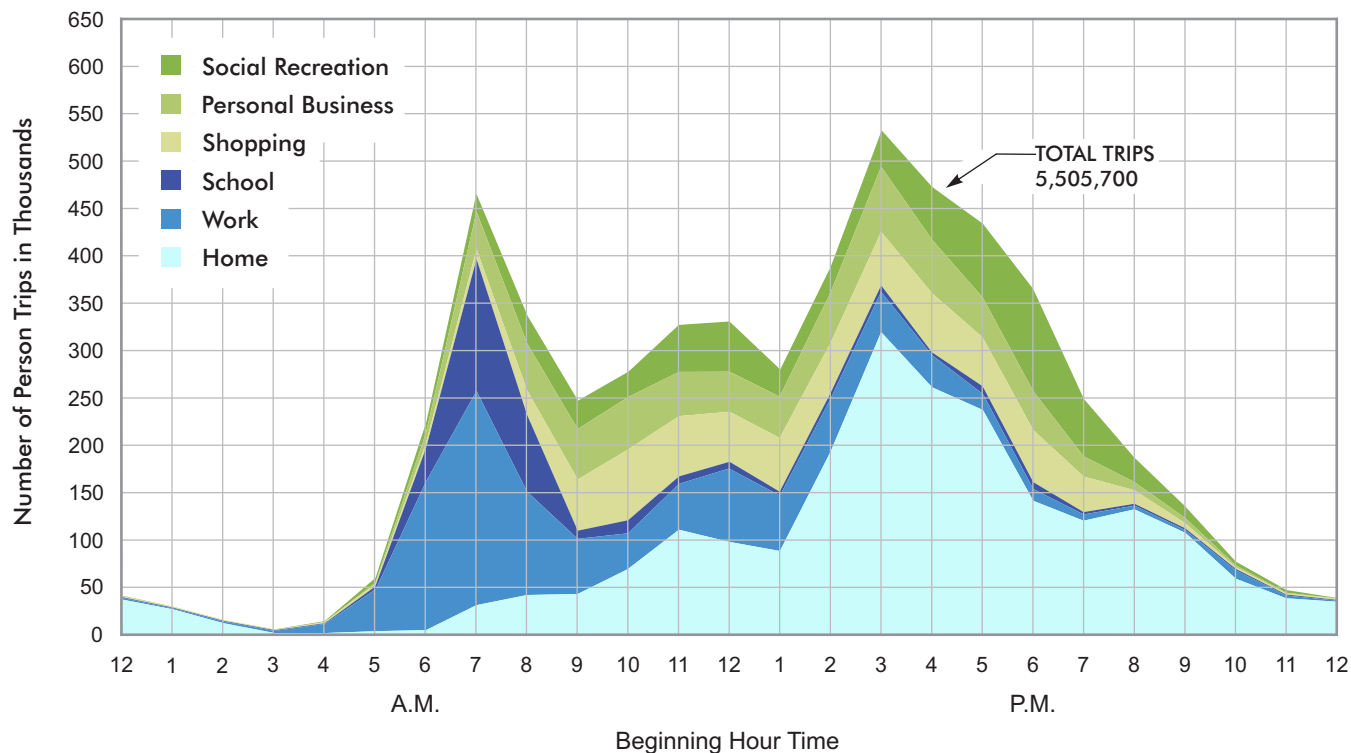
Source: SEWRPC

Figure 5.2
Hourly Variation of Average Weekday Internal Person Trips in
the Region by Trip Purpose at Destination: 1972



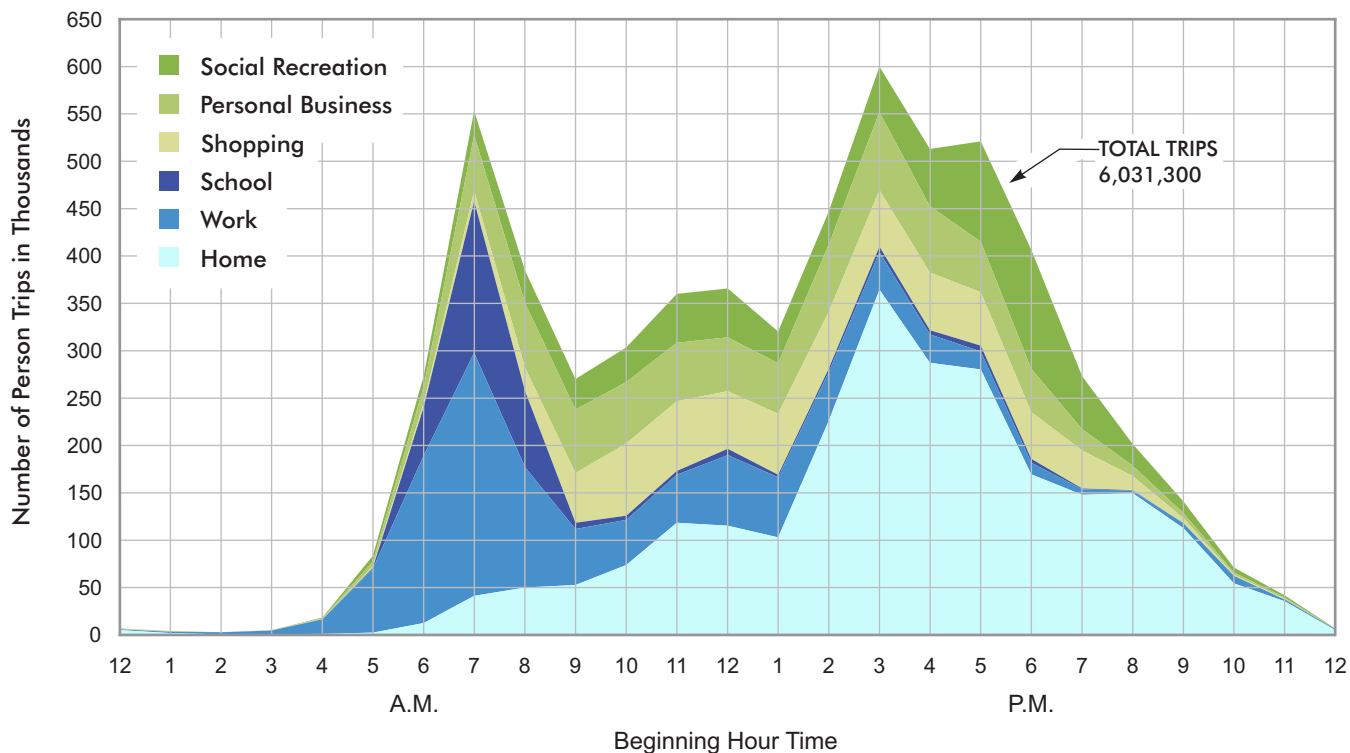
Source: SEWRPC

Figure 5.3
Hourly Variation of Average Weekday Internal Person Trips in the Region by Trip Purpose at Destination: 1991



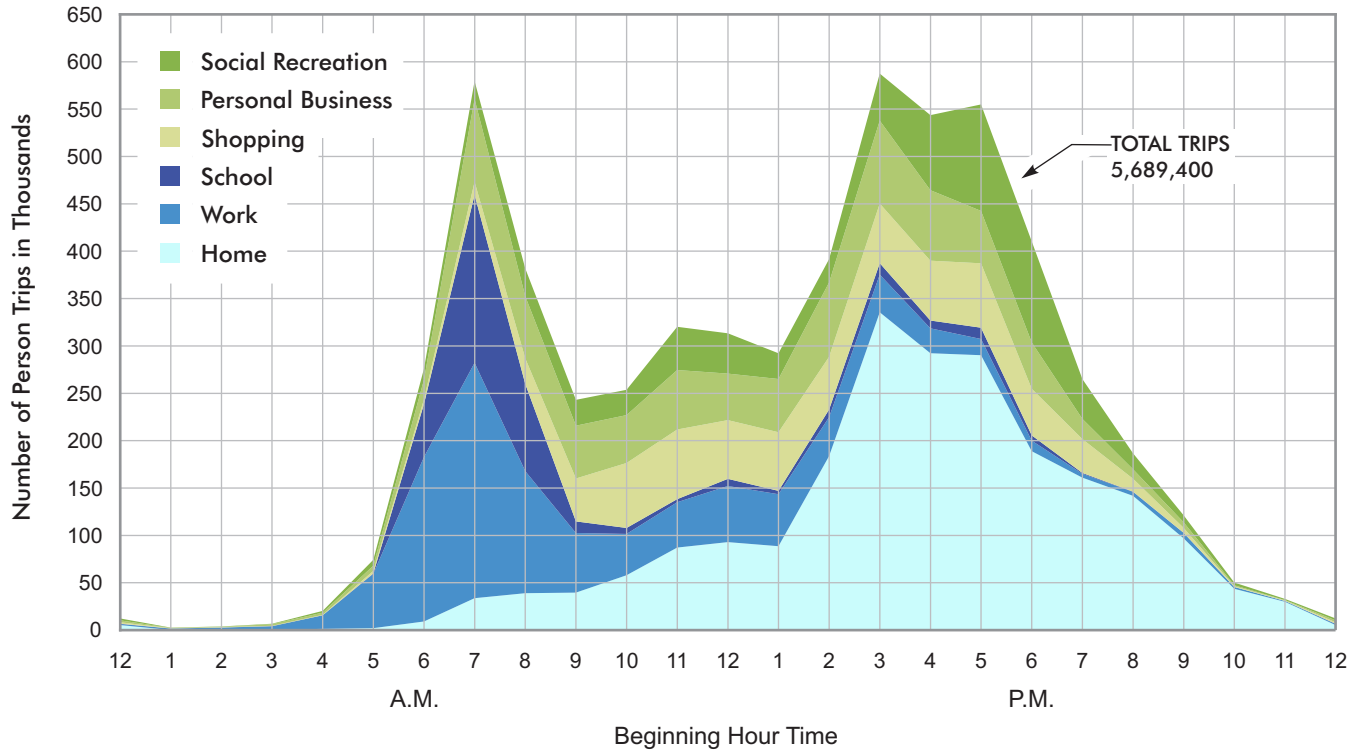
Source: SEWRPC

Figure 5.4
Hourly Variation of Average Weekday Internal Person Trips in the Region by Trip Purpose at Destination: 2001



Source: SEWRPC

Figure 5.5
Hourly Variation of Average Weekday Internal Person Trips in
the Region by Trip Purpose at Destination: 2011



Source: SEWRPC

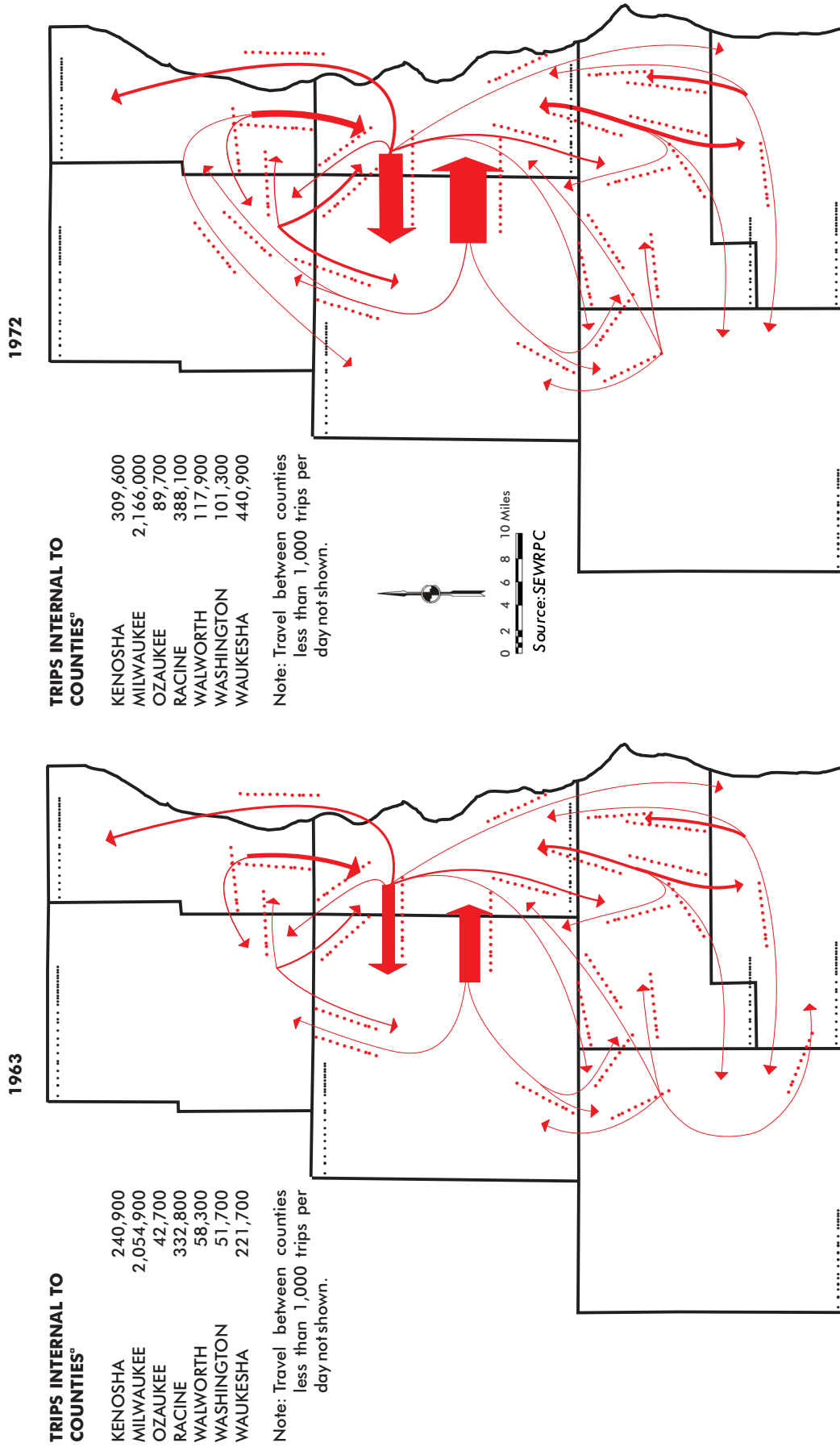
origin and the attraction county is the county location of the trip destination. Thus, the trips shown on Map 5.1 and in Table 5.11 largely indicate the trips made by residents of each county of the Region on an average weekday to and from each other county.

Several important conclusions can be drawn from these data. First, travel internal to counties dominates total travel within the Region. However, there has been a small shift over time away from intra-county travel toward increased inter-county travel. In 1963, 91 percent of trips, excluding school trips, were intra-county, that is, they had both origin and destination within the same county, while 9 percent of trips were inter-county. In 1972, 88 percent of trips were intra-county, while 12 percent were inter-county. In 1991, 85 percent of the trips were intra-county, while 15 percent were inter-county. In 2001, 82 percent of the trips were intra-county, while 18 percent were inter-county. In 2011, 81 percent of the trips were intra-county, while 19 percent were inter-county.

Second, the proportion of travel internal to the three urbanized counties, Kenosha, Milwaukee, and Racine, to total regional travel has decreased. As shown in Table 5.11, travel internal to the urbanized counties has decreased from 80 percent of all travel in 1963, to 70 percent in 1972, to 60 percent in 1991, 56 percent in 2001, and 52 percent in 2011.

Third, the number of trips to and within Milwaukee County decreased from 67 percent of all trips in 1963 to 59 percent in 1972, to 52 percent in 1991, and to 49 percent in 2001, but increased to 51 percent in 2011. Historically, a majority of the travel between Milwaukee and Waukesha Counties has

Map 5.1
Average Weekday Person Trips Between Counties in the Region: 1963, 1972, 1991, 2001, and 2011



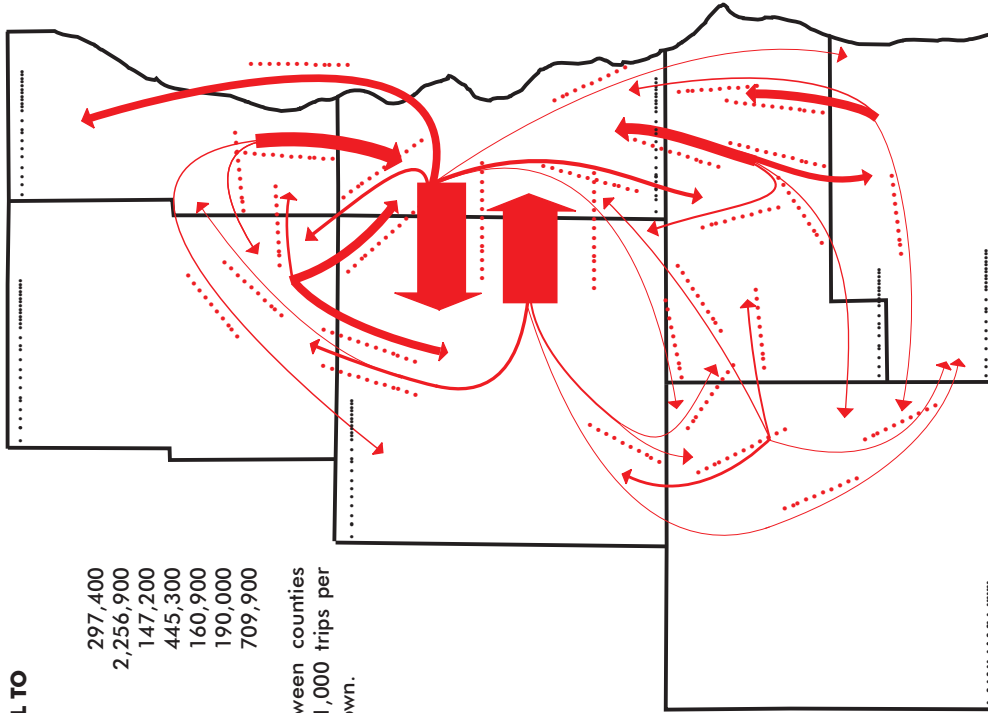
^a Trips are based on the resident household survey and include all trip purposes except school. Trips are shown in produced-attracted format—that is, from area of production to area of attraction. The production county for a trip having one end at “home”—that is, either beginning at or ending at home—is the county location of the “home” and the attraction county is the “non-home” end county location for that trip. The production county for trips having neither end at “home” is the county location of the trip origin and the attraction county is the county location of the trip destination. Thus, the trips shown on the map generally indicate the trips made on an average weekday by the residents of a county to and from each other county.

1991

TRIPS INTERNAL TO COUNTIES^a

KENOSHA	297,400
MILWAUKEE	2,256,900
OZAUKEE	147,200
RACINE	445,300
WALWORTH	160,900
WASHINGTON	190,000
WAUKESHA	709,900

Note: Travel between counties less than 1,000 trips per day not shown.

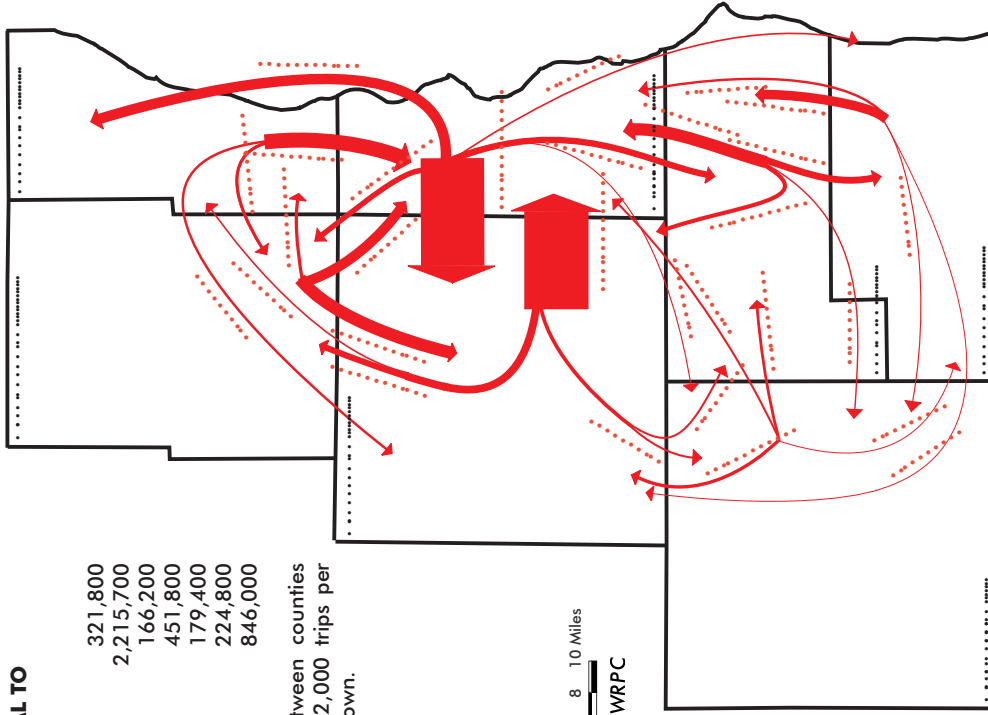
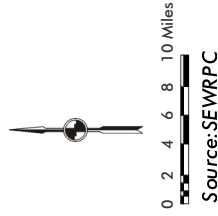


2001

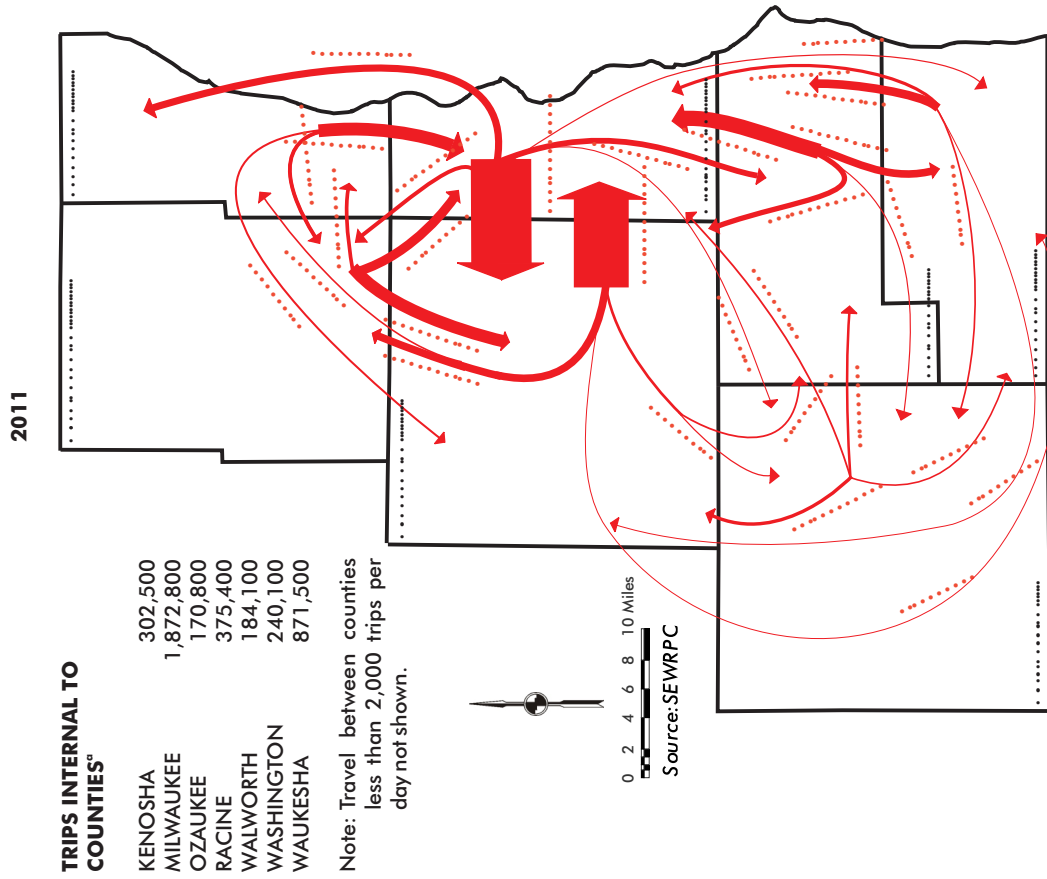
TRIPS INTERNAL TO COUNTIES^a

KENOSHA	321,800
MILWAUKEE	2,215,700
OZAUKEE	166,200
RACINE	451,800
WALWORTH	179,400
WASHINGTON	224,800
WAUKESHA	846,000

Note: Travel between counties less than 2,000 trips per day not shown.



^a Trips are based on the resident household survey and include all trip purposes except school. Trips are shown in produced-attracted format—that is, from area of production to area of attraction. The production county for a trip having one end at “home”—that is, either beginning at or ending at home—is the county location of the “home” and the attraction county is the “non-home” end county location for that trip. The production county for trips having neither end at “home” is the county location of the trip origin and the attraction county is the county location of the trip destination. Thus, the trips shown on the map generally indicate the trips made on an average weekday by the residents of a county to and from each other county.



^a Trips are based on the resident household survey and include all trip purposes except school. Trips are shown in produced-attracted format—that is, from area of production to area of attraction. The production county for a trip having one end at “home”—that is, either beginning at or ending at home—is the county location of the “home” and the attraction county is the “non-home” end county location for that trip. The production county for trips having neither end at “home” is the county location of the trip origin and the attraction county is the county location of the trip destination. Thus, the trips shown on the map generally indicate the trips made on an average weekday by the residents of a county to and from each other county.

Table 5.11
Average Weekday Person Trips (Excluding School Trips) Between, and
Within, Counties in the Region: 1963, 1972, 1991, 2001, and 2011^a

Production County	Attraction County: 1963							
	Kenosha	Milwaukee	Ozaukee	Racine	Walworth	Washington	Waukesha	Total
Kenosha	240,900	1,700	--	14,200	1,100	--	100	258,000
Milwaukee	2,300	2,054,900	11,300	8,700	1,400	4,400	60,200	2,143,200
Ozaukee	--	20,500	42,700	--	--	1,000	600	64,800
Racine	15,000	12,600	--	332,800	1,700	--	1,300	363,400
Walworth	1,200	2,800	--	2,600	58,300	200	1,600	66,700
Washington	300	8,100	2,200	--	200	51,700	5,500	68,000
Waukesha	300	97,500	900	1,300	1,100	2,600	221,700	325,400
Region	260,000	2,198,100	57,100	359,600	63,800	59,900	291,000	3,289,500
Production County	Attraction County: 1972							
	Kenosha	Milwaukee	Ozaukee	Racine	Walworth	Washington	Waukesha	Total
Kenosha	309,600	2,300	100	16,500	2,700	--	100	331,300
Milwaukee	2,700	2,166,000	14,300	9,200	1,400	5,700	110,900	2,310,200
Ozaukee	--	30,800	89,700	100	--	3,300	2,400	126,300
Racine	18,900	20,800	--	388,100	3,100	100	2,900	433,900
Walworth	800	2,200	--	5,000	117,900	--	2,700	128,600
Washington	100	13,800	5,200	200	--	101,300	12,700	133,300
Waukesha	100	170,900	2,200	1,800	2,600	4,600	440,900	623,100
Region	332,200	2,406,800	111,500	420,900	127,700	115,000	572,600	4,086,700
Production County	Attraction County: 1991							
	Kenosha	Milwaukee	Ozaukee	Racine	Walworth	Washington	Waukesha	Total
Kenosha	297,400	6,100	100	33,100	1,500	--	700	338,900
Milwaukee	3,300	2,256,900	28,800	15,700	2,600	12,500	183,500	2,503,300
Ozaukee	200	53,000	147,200	200	100	5,300	5,500	211,500
Racine	23,300	40,500	500	445,300	4,900	300	8,000	522,800
Walworth	3,800	5,000	100	7,300	160,900	--	10,700	187,800
Washington	100	33,000	9,800	300	100	190,000	30,000	263,300
Waukesha	1,100	205,100	3,600	3,900	3,600	12,400	709,900	939,600
Region	329,200	2,599,600	190,100	505,800	173,700	220,500	948,300	4,967,200
Production County	Attraction County: 2001							
	Kenosha	Milwaukee	Ozaukee	Racine	Walworth	Washington	Waukesha	Total
Kenosha	321,800	9,000	100	35,700	4,500	300	2,300	373,700
Milwaukee	6,300	2,215,700	38,900	23,500	4,200	20,400	237,500	2,546,500
Ozaukee	--	55,800	166,200	500	--	11,000	9,400	242,900
Racine	25,300	45,900	1,600	451,800	5,300	700	15,400	546,800
Walworth	2,700	7,700	100	10,500	179,400	300	12,600	213,300
Washington	300	38,100	12,200	300	100	224,800	46,400	322,200
Waukesha	1,400	239,700	6,000	7,600	6,300	22,800	846,000	1,129,800
Region	357,800	2,611,900	225,100	529,900	199,800	280,300	1,169,600	5,374,400
Production County	Attraction County: 2011							
	Kenosha	Milwaukee	Ozaukee	Racine	Walworth	Washington	Waukesha	Total
Kenosha	302,500	12,000	300	32,200	6,300	100	2,700	356,100
Milwaukee	4,500	1,872,800	26,700	21,600	4,100	14,800	226,000	2,170,500
Ozaukee	200	48,000	170,800	500	--	14,400	7,600	241,500
Racine	28,500	57,000	100	375,400	4,400	600	19,800	485,800
Walworth	6,000	6,800	--	9,500	184,100	--	12,800	219,200
Washington	200	34,800	13,800	500	--	240,100	46,000	335,400
Waukesha	2,200	205,400	6,100	6,700	4,700	28,400	871,500	1,125,000
Region	344,100	2,236,800	217,800	446,400	203,600	298,400	1,186,400	4,933,500

^a Trips are based on the resident household survey and include all trip purposes except school. Trips are shown in produced-attracted format—that is, from area of production to area of attraction. The production county for a trip having one end at “home”—that is, either beginning at or ending at home—is the county location of the “home” and the attraction county is the “non-home” end county location for that trip. The production county for trips having neither end at “home” is the county location of the trip origin and the attraction county is the county location of the trip destination. Thus, the trips shown in the table largely indicate the trips made by residents of each county of the Region on an average weekday to and from each other county.

Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1963, 1972, and 1991.

Source: SEWRPC

been to Milwaukee County. In 2001, travel between the two counties was fairly balanced, and in 2011 the majority of travel between Milwaukee and Waukesha Counties was to Waukesha County.

Generational Differences in Internal Personal Travel

Tables 5.12 through 5.15 compare generational differences in tripmaking between the 1991, 2001, and 2011 household travel inventories with regard to vehicle availability, household size, mode of travel, and trip purpose. Household data were quantified based on the age of the head of household. Each age grouping was selected to best represent each generation at the time of the 2011 household inventory: Millennials (ages 16 through 26), Generation X (ages 27 through 46), Baby Boomers (ages 47 through 66), and the Greatest Generation (ages 67 and older). The generations in 2011 were compared to similar age brackets in the 2001 and 1991 household inventory in an attempt to determine whether the current generations are behaving differently than in the past.

Table 5.12 shows the distribution of households and person trips by vehicle availability and age category. This comparison shows that across age categories there is a strong correlation between vehicle availability and person trips per household, with the number of trips per household increasing with the number of vehicles available. Household tripmaking peaks in the 27 to 46 age category and tripmaking decreases as households age.

Table 5.13 shows the distribution of households and person trips by household size and age group. This comparison shows that across age categories there is a strong correlation between household size and person trips per household, with the number of trips per household increasing with household size.

Table 5.14 shows the distribution of trips by mode of travel in 2001 and 2011. Travel in 1991 was excluded from this table since walk and bike trips were not collected for non-work travel. Auto trips are significantly lower, and bicycle and walking and public transit trips are significantly higher, as a proportion of all trips for households with head of household of ages 16 to 26. Between 2001 and 2011 bicycle and walking trips increased for all households regardless of age.

Table 5.15 shows the distribution of trips by purpose by age category. As was indicated by Table 5.8, Table 5.15 shows travel by purpose to be down since 2001 across all age categories with the exception of nonhome-based and school trips, which showed slight increases from 2001 to 2011.

Overall, this analysis indicates there has been a general decrease in household tripmaking occurring across all age groups since 1991. This analysis indicates that household tripmaking peaks in the 27 to 46 age category and average household trip rates decline as households age. In general, the changes seen in the data are present across all age groups, and the trends associated with a particular age group relative to another age group are very similar from 1991 to 2011. While the number of trips generated by household do change as a household ages, this analysis does not indicate that generations, like the Millennials, are behaving significantly differently than their predecessors in similar age categories in 1991 and 2001. This analysis of travel behavior by different generations does indicate that there has been a general decrease in household travel since 1991, but it does not indicate that one generation is significantly driving the change as compared to other generations.

Table 5.12
Average Weekday Internal Person Trips Per Household in the Region by Age of Head
of Household and Vehicle Availability: 1991, 2001, and 2011^a

Vehicle Available	Households				Person Trips				Person Trips per Household			
	16 to 26	27 to 46	47 to 66	67+	16 to 26	27 to 46	47 to 66	67+	16 to 26	27 to 46	47 to 66	67+
1991												
None	7,900	17,800	10,900	25,300	24,600	77,300	24,200	30,200	3.1	4.3	2.2	1.2
One	13,700	89,700	60,400	69,800	73,200	550,800	315,000	352,700	5.3	6.1	5.2	5.1
Two	13,300	156,500	84,700	26,500	101,100	1,729,800	757,300	213,500	7.6	11.1	8.9	8.1
Three or More	2,600	44,400	47,000	5,300	21,800	584,100	593,600	56,000	8.4	13.2	12.6	10.6
Total	37,500	308,400	203,000	126,900	220,700	2,942,000	1,690,100	652,400	5.9	9.5	8.3	5.1
2001												
None	5,700	19,200	23,800	15,600	18,300	62,300	53,600	26,800	3.2	3.2	2.3	1.7
One	20,500	91,600	88,300	67,000	99,500	610,800	490,100	387,900	4.9	6.7	5.6	5.8
Two	12,000	142,900	108,200	31,100	81,800	1,506,500	942,800	255,900	6.8	10.5	8.7	8.2
Three or More	4,200	59,000	64,500	5,800	38,800	695,200	704,400	56,500	9.2	11.8	10.9	9.7
Total	42,400	312,700	284,800	119,500	238,400	2,874,800	2,190,900	727,100	5.6	9.2	7.7	6.1
2011												
None	7,600	19,400	26,000	18,800	22,100	86,900	69,600	27,400	2.9	4.5	2.7	1.5
One	24,400	96,900	92,200	69,700	93,000	553,300	453,400	289,300	3.8	5.7	4.9	4.2
Two	15,800	139,100	114,000	44,800	115,200	1,353,500	923,700	278,300	7.3	9.7	8.1	6.2
Three or More	3,400	44,700	75,800	9,500	26,700	494,800	828,000	74,400	7.9	11.1	10.9	7.8
Total	51,200	300,100	308,000	142,800	257,000	2,488,500	2,274,700	669,400	5.0	8.3	7.4	4.7

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1991.

Source: SEWRPC

**Table 5.13
Average Weekday Internal Person Trips Per Household in the Region by Age of
Head of Household and Household Size: 1991, 2001, and 2011^a**

Household Size	Households					Person Trips					Person Trips per Household				
	16 to 26	27 to 46	47 to 66	67+	Total	16 to 26	27 to 46	47 to 66	67+	Total	16 to 26	27 to 46	47 to 66	67+	Total
1991	One	9,700	56,600	44,900	57,400	37,600	217,800	156,400	153,800	329,600	3.9	3.8	3.5	2.7	3.8
	Two	12,600	57,200	86,200	58,100	80,500	404,800	651,500	389,000	652,800	6.4	7.1	7.6	6.7	7.1
	Three	7,900	60,000	39,600	8,600	52,100	535,900	411,400	76,200	652,600	6.6	8.9	10.4	8.9	8.9
	Four	4,500	79,100	18,800	2,000	29,000	969,300	260,700	24,000	652,700	6.4	12.3	13.9	12.0	12.3
	Five or More	2,800	55,600	13,600	800	21,600	814,200	210,100	9,500	652,400	7.7	14.6	15.4	11.9	14.6
Total	37,500	308,500	203,100	126,900	1,690,100	2,942,000	1,690,100	652,500	5.9	5.9	5.9	8.3	5.1	5.9	
2001	One	12,700	57,800	84,100	56,500	42,400	221,700	329,700	216,300	329,700	3.3	3.8	3.9	3.8	3.8
	Two	12,300	60,200	119,600	55,300	75,200	380,700	883,100	430,800	652,800	6.1	6.3	7.4	7.8	6.3
	Three	7,800	60,700	45,100	5,300	47,800	532,100	473,500	51,200	652,700	6.1	8.8	10.5	9.7	8.8
	Four	5,900	75,300	23,500	1,600	41,600	886,900	300,400	20,400	652,900	7.1	11.8	12.8	12.8	11.8
	Five or More	3,800	58,700	12,700	700	31,400	853,600	204,200	8,400	652,600	8.3	14.5	16.1	12.0	14.5
Total	42,500	312,700	285,000	119,400	2,190,900	2,875,000	2,190,900	727,100	5.6	5.6	5.6	7.7	6.1	5.6	
2011	One	18,700	59,800	94,300	60,500	56,400	203,600	302,900	173,200	302,900	3.0	3.4	3.2	2.9	3.4
	Two	18,800	59,400	114,400	73,200	113,100	356,600	733,000	420,900	652,800	6.0	6.0	6.4	5.8	6.0
	Three	9,800	59,400	47,700	7,000	52,100	462,700	486,300	55,900	652,900	5.3	7.8	10.2	8.0	7.8
	Four	3,500	66,000	32,000	1,400	33,700	685,000	440,700	13,800	652,900	9.6	10.4	13.8	9.9	10.4
	Five or More	400	55,500	19,700	500	1,500	780,500	311,600	5,500	652,900	3.8	14.1	15.8	11.0	14.1
Total	51,200	300,100	308,100	142,600	2,568,800	2,488,400	2,274,500	669,300	5.0	5.0	5.0	7.4	4.7	5.0	

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1991.

Source: SEWRPC

Table 5.14
Distribution of Average Weekday Internal Person Trips by Households in the Region by Mode of Travel and Age of Head of Household: 2001 and 2011

Mode of Travel		Person Trips by Age of Head of Household							
		16 to 26		27 to 46		47 to 66		67+	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
2001	Auto Driver	178,700	63.3	1,970,900	64.8	1,782,700	78.9	575,100	77.1
	Auto Passenger	39,900	14.1	640,500	21.1	311,700	13.8	138,700	18.6
	Public Transit	11,800	4.2	70,200	2.3	50,500	2.2	9,700	1.3
	School Bus	6,800	2.4	181,200	6.0	38,500	1.7	1,000	0.1
	Walk and Bicycle	43,900	15.5	164,500	5.4	68,300	3.0	18,900	2.5
	Other ^a	1,300	0.5	12,000	0.4	7,600	0.3	2,700	0.4
	Total	282,400	100.0	3,039,300	100.0	2,259,300	100.0	746,100	100.0
2011	Auto Driver	203,000	65.1	1,668,900	61.7	1,760,300	72.6	521,000	73.4
	Auto Passenger	35,300	11.3	598,700	22.1	388,500	16.0	137,800	19.4
	Public Transit	15,600	5.0	55,300	2.0	51,600	2.1	6,700	0.9
	School Bus	1,800	0.6	149,500	5.5	53,500	2.2	1,200	0.2
	Walk and Bicycle	54,700	17.6	218,000	8.1	150,900	6.2	40,000	5.6
	Other ^a	1,200	0.4	16,100	0.6	20,800	0.9	2,700	0.4
	Total	311,600	100.0	2,706,500	100.0	2,425,600	100.0	709,400	100.0

^a Includes motorcycle and taxi.

Source: SEWRPC

Table 5.15
Average Weekday Internal Person Trips per Household in the Region by Age of Head of Household and Trip Purpose: 1991, 2001, and 2011^a

Trip Purpose		Person Trips				Person Trips per Household			
		16 to 26	27 to 46	47 to 66	67+	16 to 26	27 to 46	47 to 66	67+
1991	Home-Based Work	65,400	713,400	440,600	49,500	1.7	2.3	2.2	0.4
	Home-Based Shopping	26,700	344,300	257,400	169,400	0.7	1.1	1.3	1.3
	Home-Base Other	56,700	845,200	498,000	287,400	1.5	2.7	2.5	2.3
	Nonhome-Based	48,800	564,800	373,900	138,300	1.3	1.8	1.8	1.1
	School	23,100	474,300	120,100	8,000	0.6	1.5	0.6	0.1
	Total	220,700	2,942,000	1,690,000	652,600	5.9	9.5	8.3	5.1
2001	Home-Based Work	79,300	732,000	574,800	49,100	1.9	2.3	2.0	0.4
	Home-Based Shopping	27,900	273,700	300,500	159,400	0.7	0.9	1.1	1.3
	Home-Base Other	64,400	897,000	668,000	333,100	1.5	2.9	2.3	2.8
	Nonhome-Based	39,000	496,000	498,600	181,500	0.9	1.6	1.7	1.5
	School	27,700	476,200	149,000	4,100	0.7	1.5	0.5	0.0
	Total	238,300	2,874,900	2,190,900	727,200	5.6	9.2	7.7	6.1
2011 ^b	Home-Based Work	88,300	565,800	570,300	49,200	1.7	1.9	1.9	0.3
	Home-Based Shopping	24,100	224,100	265,100	137,800	0.5	0.7	0.9	1.0
	Home-Base Other	54,900	720,600	645,400	280,400	1.1	2.4	2.1	2.0
	Nonhome-Based	50,200	516,500	543,600	197,200	1.0	1.7	1.8	1.4
	School	39,400	461,600	250,100	4,800	0.8	1.5	0.8	0.0
	Total	256,900	2,488,600	2,274,500	669,400	5.0	8.3	7.4	4.7

^a Trips made by bicycle and walking are not included in this analysis, as they were not surveyed for non-work trip purposes in 1991.

^b The decline in tripmaking from 2001 to 2011 is overstated in this table as it does not include bicycle and walking trips, which increased from an estimated 295,700 trips in 2001 to 463,500 trips in 2011.

Source: SEWRPC

Table 5.16
Commercial-Use Truck Availability and Average Weekday Internal Truck Trips in the Region by Type: 1963, 1972, 1991, 2001, and 2011

Type of Truck	Year	Trucks			Truck Trips			
		Number	Percent of Total	Percent Change	Number	Percent of Total	Percent Change	Trips per Truck
Light	1963	33,800	57.8	--	169,500	57.8	--	5.0
	1972	51,000	66.0	50.9	185,800	50.1	9.6	3.6
	1991	49,100	56.1	-3.7	214,300	41.1	15.3	4.4
	2001	79,600	61.5	62.1	319,100	54.8	48.9	4.0
	2011	67,300	55.3	-15.5	327,000	53.2	2.5	4.9
Medium	1963	20,500	35.0	--	110,900	37.8	--	5.4
	1972	22,850	29.6	11.5	173,500	46.8	56.4	7.6
	1991	28,400	32.5	24.3	259,700	49.8	49.7	9.1
	2001	35,600	27.5	25.4	196,200	33.7	-24.5	5.5
	2011	37,900	31.2	6.5	196,400	32.0	0.1	5.2
Heavy	1963	4,200	7.2	--	13,000	4.4	--	3.1
	1972	3,400	4.4	-19.0	11,700	3.1	-10.0	3.4
	1991	3,100	3.5	-8.8	17,500	3.6	49.6	5.6
	2001	6,600	5.1	112.9	41,200	7.1	135.4	6.2
	2011	5,700	4.7	-13.6	30,500	4.9	-26.0	5.4
Municipal	1963 ^a	--	--	--	--	--	--	--
	1972 ^a	--	--	--	--	--	--	--
	1991	6,900	7.9	--	28,600	5.5	--	4.1
	2001	7,700	5.9	11.6	26,000	4.4	-9.1	3.4
	2011	10,700	8.8	39.0	60,600	9.9	133.1	5.7
Total	1963	58,500	100.0	--	293,400	100.0	--	5.0
	1972	77,250	100.0	32.1	371,000	100.0	26.4	4.8
	1991	87,500	100.0	13.3	520,100	100.0	40.2	5.9
	2001	129,500	100.0	48.0	582,500	100.0	12.0	4.5
	2011	121,600	100.0	-6.1	614,500	100.0	5.5	5.1

^a Data for Municipal Trucks for 1963 and 1972 were not collected.

Source: SEWRPC

Internal Commercial Truck Travel

The number of trucks available within the Region increased from 58,500 in 1963 to 77,250 in 1972, to 87,500 in 1991, and to 129,500 in 2001, and then declined to 121,600 in 2011, as shown in Table 5.16. Due to the substantial increase in the use of light trucks as personal vehicles rather than as commercial vehicles, the 1991, 2001, and 2011 commercial truck totals exclude trucks employed primarily for personal use. Such personal-use trucks were included in 1991, 2001, and 2011 with automobiles as personal-use vehicles. In 1963, personal-use trucks represented 5,100, or only about 9 percent, of the total 58,500 trucks available. In 1972 they represented 18,100, or about 23 percent, of the total 77,250 trucks available. By 1991, personal-use trucks were estimated to total about 80,600 trucks, or about 48 percent of the total 168,100 trucks available. This trend continued in 2001 and 2011. In 2001, personal-use trucks were estimated to total 132,900 trucks, or about 51 percent of the total 261,000 trucks available; in 2011, personal-use trucks were estimated to total 114,500 trucks, or about 48 percent of the 236,100 trucks available. Most of the reduction in the total trucks available between 2001 and 2011 is associated with a change in preference away from personal-use trucks toward more fuel-efficient passenger cars. This coincides with the increase in fuel price experienced over the last decade.

While survey data show a general decrease in household travel since 1991, analysis indicates that generations, like the Millennials, are not behaving significantly differently than their predecessors in similar age categories.

Together, the 121,600 light, medium, heavy, and municipal trucks in commercial use in 2011 made an estimated total of 614,500 trips on an

Table 5.17
Selected Tripmaking Characteristics of Commercial-Use Trucks
Garaged in the Region: 1963, 1972, 1991, 2001, and 2011

Trip Characteristics	1963	1972	1991	2001	2011
Average Weekday Trips per Truck	5.0	4.8	5.9	4.5	5.1
Average Trip Length (miles)	4.9	7.3	8.4	8.7	7.8

Trip Characteristics	Change							
	1963-2011		1972-2011		1991-2011		2001-2011	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Average Weekday Trips per Truck	0.1	1.1	0.3	5.3	-0.8	-14.3	0.6	12.3
Average Trip Length (miles)	2.9	59.8	0.5	7.3	-0.6	-6.8	-0.9	-10.0

Source: SEWRPC

average weekday in 2011, representing an increase of 32,000 trips, or 5.5 percent, from 2001; an increase of 62,400 trips, or 12 percent, from 1991; an increase of 211,500 trips, or 57 percent, since 1972; and, an increase of 289,100 trips, or 99 percent, since 1963. The average number of trips per weekday for all trucks in commercial use has been fairly stable over the last five decades and was an estimated 5.1 trips per truck in 2011, 4.5 in 2001, 5.9 in 1991, 4.8 in 1972, and 5.0 in 1963. As shown in Table 5.17, the average miles traveled per truck trip increased from 4.9 miles per trip in 1963, to 7.3 in 1972, to 8.4 in 1991, and to 8.7 in 2001, and then declined to 7.8 in 2011.

External Trip Production

In addition to the 6.24 million internal person trips and 4.87 million internal vehicle trips made within the Region on an average weekday in 2011, there were 403,800 personal vehicle person trips and 363,800 total vehicle trips—including personal vehicle and commercial truck trips—entering, leaving, or passing through the Region. In each of the survey years, as indicated in Table 5.18, the numbers of external personal vehicle person and total vehicle trips entering the Region were very similar to the respective numbers of such trips leaving the Region, ranging from 47 to 48 percent in the case of total external personal vehicle person trips and from 46 to 47 percent of total external vehicle trips. External personal vehicle person and total vehicle trips that passed through the Region, which remained at about 8 percent of all external trips between 1963 and 1972, decreased to about 5 percent of all external trips in 1991 and 2001, and increased to about 6 percent of all external personal vehicle person trips and 8 percent of total vehicle trips in 2011.

As shown on Table 5.18, external travel both in terms of person and vehicle trips by county varies widely but is greatest in Kenosha County, which represented approximately 23 percent of inbound and outbound person trips and 22 percent of inbound and outbound vehicle trips in 2011. Kenosha County's share of external travel has been declining since 1991. In comparison, Waukesha County has seen continual growth in external travel both in terms of person trips and vehicle trips since 1991. In 2011, Waukesha County represented 21 percent of external person trips and 21 percent of external vehicle trips.

**Table 5.18
Average Weekday External Person and Vehicle Trips in the Region by Direction by County: 1963, 1972, 1991, 2001, and 2011**

Direction	Year	Personal Vehicle Driver Trips ^a			Personal Vehicle Passenger Trips ^a			Personal Vehicle Person Trips			Commercial Truck Trips			Total Vehicle Trips				
		Number	Percent Change	Percent Change	Number	Percent Change	Percent Change	Number	Percent Change	Percent of All Directions	Number	Percent Change	Percent Change	Number	Percent Change	Percent of All Directions		
Kenosha County	Inbound	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1991	29,300	--	--	8,500	--	--	37,800	--	48.5	2,500	--	--	31,800	--	48.3	48.3
		2001	35,800	22.2	20.0	10,200	20.0	21.7	46,000	21.7	48.6	3,200	28.0	28.0	39,000	22.6	49.6	49.6
		2011	36,200	1.1	-5.9	9,600	-5.9	-0.4	45,800	-0.4	52.9	3,000	-6.3	-6.3	39,200	0.5	52.6	52.6
Kenosha County	Outbound	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1991	31,400	--	--	8,900	--	--	40,300	--	51.5	2,700	--	--	34,100	--	51.7	51.7
		2001	36,600	16.6	33.7	11,900	33.7	20.3	48,500	20.3	51.4	3,000	11.1	11.1	39,600	16.1	50.4	50.4
		2011	32,200	-12.0	-27.7	8,600	-27.7	-15.9	40,800	-15.9	47.1	3,100	3.3	3.3	35,300	-10.9	47.4	47.4
All Directions	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1991	60,700	--	--	17,400	--	--	78,100	--	100.0	5,200	--	--	65,900	--	100.0	100.0	
	2001	72,400	19.3	27.0	22,100	27.0	21.0	94,500	21.0	100.0	6,200	19.2	19.2	78,600	19.3	100.0	100.0	
	2011	68,400	-5.5	-17.6	18,200	-17.6	-8.4	86,600	-8.4	100.0	6,100	-1.6	-1.6	74,500	-5.2	100.0	100.0	
Milwaukee County	Inbound	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1991	21,800	--	--	11,700	--	--	33,500	--	49.5	5,800	--	--	27,600	--	49.3	49.3
		2001	24,200	11.0	0.0	11,700	0.0	7.2	35,900	7.2	53.7	7,800	34.5	34.5	32,000	15.9	52.4	52.4
		2011	25,400	5.0	6.8	12,500	6.8	5.6	37,900	5.6	52.9	6,000	-23.1	-23.1	31,400	-1.9	51.2	51.2
Milwaukee County	Outbound	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1991	22,400	--	--	11,800	--	--	34,200	--	50.5	6,000	--	--	28,400	--	50.7	50.7
		2001	22,400	0.0	-27.1	8,600	-27.1	-9.4	31,000	-9.4	46.3	6,700	11.7	11.7	29,100	2.5	47.6	47.6
		2011	23,300	4.0	20.9	10,400	20.9	8.7	33,700	8.7	47.1	6,600	-1.5	-1.5	29,900	2.7	48.8	48.8
All Directions	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1991	44,200	--	--	23,500	--	--	67,700	--	100.0	11,800	--	--	56,000	--	100.0	100.0	
	2001	46,600	5.4	-13.6	20,300	-13.6	-1.2	66,900	-1.2	100.0	14,500	22.9	22.9	61,100	9.1	100.0	100.0	
	2011	48,700	4.5	12.8	22,900	12.8	7.0	71,600	7.0	100.0	12,600	-13.1	-13.1	61,300	0.3	100.0	100.0	

^a Includes personal-use trucks. **Table continued on next page.**

Table 5.18 (Continued)

Direction	Personal Vehicle Driver Trips ^a		Personal Vehicle Passenger Trips ^a		Personal Vehicle Person Trips		Commercial Truck Trips		Total Vehicle Trips		
	Number	Percent Change	Number	Percent Change	Number	Percent Change	Year	Number	Percent Change	Number	Percent Change
Inbound	1963	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--
	1991	4,400	--	1,500	--	5,900	--	1,200	5,600	--	48.3
	2001	7,000	59.1	2,300	53.3	9,300	57.6	2,500	9,500	69.6	49.0
	2011	8,600	22.9	3,100	34.8	11,700	25.8	1,500	10,100	6.3	55.5
Outbound	1963	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--
	1991	4,700	--	1,600	--	6,300	--	1,300	6,000	--	51.7
	2001	7,600	61.7	2,700	68.8	10,300	63.5	2,300	9,900	65.0	51.0
	2011	7,300	-3.9	2,100	-22.2	9,400	-8.7	800	8,100	-18.2	44.5
All Directions	1963	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--
	1991	9,100	--	3,100	--	12,200	--	2,500	11,600	--	100.0
	2001	14,600	60.4	5,000	61.3	19,600	60.7	4,800	19,400	67.2	100.0
	2011	15,900	8.9	5,200	4.0	21,100	7.7	2,300	18,200	-6.2	100.0
Inbound	1963	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--
	1991	6,600	--	2,400	--	9,000	--	1,100	7,700	--	47.8
	2001	6,400	-3.0	2,400	0.0	8,800	-2.2	2,000	8,400	9.1	50.9
	2011	8,100	26.6	2,500	4.2	10,600	20.5	5,700	13,800	64.3	53.5
Outbound	1963	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--
	1991	7,300	--	2,700	--	10,000	--	1,100	8,400	--	52.2
	2001	7,000	-4.1	2,400	-11.1	9,400	-6.0	1,100	8,100	-3.6	49.1
	2011	9,300	32.9	3,000	25.0	12,300	30.9	2,700	12,000	48.1	46.5
All Directions	1963	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--
	1991	13,900	--	5,100	--	19,000	--	2,200	16,100	--	100.0
	2001	13,400	-3.6	4,800	-5.9	18,200	-4.2	3,100	16,500	2.5	100.0
	2011	17,400	29.9	5,500	14.6	22,900	25.8	8,400	25,800	56.4	100.0

^a Includes personal-use trucks.

Table continued on next page.

Table 5.18 (Continued)

Direction	Personal Vehicle Driver Trips ^a		Personal Vehicle Passenger Trips ^a		Personal Vehicle Person Trips		Commercial Truck Trips		Total Vehicle Trips				
	Year	Number	Percent Change	Number	Percent Change	Number	Direction	Year	Number	Percent Change	Number	Percent Change	
Walworth County	Inbound	1963	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	
		1991	17,300	--	6,400	--	23,700	49.1	2,500	--	19,800	--	49.3
		2001	25,400	46.8	8,200	28.1	33,600	41.8	4,500	80.0	29,900	51.0	50.6
		2011	21,300	-16.1	7,300	-11.0	28,600	-14.9	3,400	-24.4	24,700	-17.4	47.9
Walworth County	Outbound	1963	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	
		1991	17,700	--	6,900	--	24,600	--	2,700	--	20,400	--	50.7
		2001	25,900	46.3	7,900	14.5	33,800	37.4	3,300	22.2	29,200	43.1	49.4
		2011	23,200	-10.4	6,800	-13.9	30,000	-11.2	3,700	12.1	26,900	-7.9	52.1
Walworth County	All Directions	1963	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	
		1991	35,000	--	13,300	--	48,300	--	5,200	--	40,200	--	100.0
		2001	51,300	46.6	16,100	21.1	67,400	39.5	7,800	50.0	59,100	47.0	100.0
		2011	44,500	-13.3	14,100	-12.4	58,600	-13.1	7,100	-9.0	51,600	-12.7	100.0
Washington County	Inbound	1963	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	
		1991	9,000	--	3,400	--	12,400	--	2,500	--	11,500	--	50.4
		2001	13,800	53.3	4,800	41.2	18,600	50.0	5,200	108.0	19,000	65.2	49.1
		2011	14,500	5.1	4,300	-10.4	18,800	1.1	3,500	-32.7	18,000	-5.3	49.9
Washington County	Outbound	1963	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	
		1991	8,900	--	3,000	--	11,900	--	2,400	--	11,300	--	49.6
		2001	14,600	64.0	6,100	103.3	20,700	73.9	5,100	112.5	19,700	74.3	50.9
		2011	14,900	2.1	6,400	4.9	21,300	2.9	3,200	-37.3	18,100	-8.1	50.1
Washington County	All Directions	1963	--	--	--	--	--	--	--	--	--	--	
		1972	--	--	--	--	--	--	--	--	--	--	
		1991	17,900	--	6,400	--	24,300	--	4,900	--	22,800	--	100.0
		2001	28,400	58.7	10,900	70.3	39,300	61.7	10,300	110.2	38,700	69.7	100.0
		2011	29,400	3.5	10,700	-1.8	40,100	2.0	6,700	-35.0	36,100	-6.7	100.0

^a Includes personal-use trucks. **Table continued on next page.**

Table 5.18 (Continued)

Direction	Year	Personal Vehicle Driver Trips ^a		Personal Vehicle Passenger Trips ^a		Personal Vehicle Person Trips			Commercial Truck Trips			Total Vehicle Trips			
		Number	Percent Change	Number	Percent Change	Number	Percent Change	Percent of All Directions	Number	Percent Change	Number	Percent Change	Number	Percent Change	Percent of All Directions
Inbound	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1991	18,900	--	6,400	--	25,300	--	48.9	3,700	--	22,600	--	22,600	--	49.5
	2001	24,900	31.7	8,100	26.6	33,000	30.4	47.2	6,800	83.8	31,700	40.3	31,700	40.3	47.9
	2011	28,500	14.5	9,300	14.8	37,800	14.5	47.7	4,700	-30.9	33,200	4.7	33,200	4.7	48.1
Outbound	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1991	19,500	--	6,900	--	26,400	--	51.1	3,600	--	23,100	--	23,100	--	50.5
	2001	28,100	44.1	8,800	27.5	36,900	39.8	52.8	6,400	77.8	34,500	49.4	34,500	49.4	52.1
	2011	30,600	8.9	10,900	23.9	41,500	12.5	52.3	5,200	-18.8	35,800	3.8	35,800	3.8	51.9
All Directions	1963	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1972	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1991	38,400	--	13,300	--	51,700	--	100.0	7,300	--	45,700	--	45,700	--	100.0
	2001	53,000	38.0	16,900	27.1	69,900	35.2	100.0	13,200	80.8	66,200	44.9	66,200	44.9	100.0
	2011	59,100	11.5	20,200	19.5	79,300	13.4	100.0	9,900	-25.0	69,000	4.2	69,000	4.2	100.0
Inbound	1963	39,700	--	47,900	--	87,600	--	45.7	7,100	--	46,800	--	46,800	--	46.1
	1972	46,700	17.6	33,500	-30.1	80,200	-8.4	45.3	10,900	53.5	57,600	23.1	57,600	23.1	45.8
	1991	107,300	129.8	40,300	20.3	147,600	84.0	46.5	19,300	77.1	126,600	119.8	126,600	119.8	46.3
	2001	137,500	28.1	47,700	18.4	185,200	25.5	46.9	32,000	65.8	169,500	33.9	169,500	33.9	47.4
	2011	142,600	3.7	48,600	1.9	191,200	3.2	47.4	27,800	-13.1	170,400	0.5	170,400	0.5	46.8
Outbound	1963	40,000	--	48,100	--	88,100	--	46.0	7,200	--	47,200	--	47,200	--	46.5
	1972	47,500	18.8	35,900	-25.4	83,400	-5.3	47.1	10,700	48.6	58,200	23.3	58,200	23.3	46.3
	1991	111,900	135.6	41,800	16.4	153,700	84.3	48.4	19,800	85.0	131,700	126.3	131,700	126.3	48.2
	2001	142,200	27.1	48,400	15.8	190,600	24.0	48.3	27,900	40.9	170,100	29.2	170,100	29.2	47.6
	2011	140,800	-1.0	48,200	-0.4	189,000	-0.8	46.8	25,300	-9.3	166,100	-2.4	166,100	-2.4	45.7
Through	1963	5,900	--	10,100	--	16,000	--	8.3	1,700	--	7,600	--	7,600	--	7.5
	1972	6,600	11.9	6,700	-33.7	13,300	-16.9	7.5	3,300	94.1	9,900	30.3	9,900	30.3	7.9
	1991	10,000	51.5	6,100	-9.0	16,100	21.1	5.1	5,000	51.5	15,000	51.5	15,000	51.5	5.5
	2001	11,200	12.0	7,900	29.5	19,100	18.6	4.8	6,700	34.0	17,900	19.3	17,900	19.3	5.0
	2011	14,600	30.4	9,000	13.9	23,600	23.6	5.8	12,700	89.6	27,300	52.5	27,300	52.5	7.5
All Directions	1963	85,600	--	106,100	--	191,700	--	100.0	16,000	--	101,600	--	101,600	--	100.0
	1972	100,800	17.8	76,100	-28.3	176,900	-7.7	100.0	24,900	55.6	125,700	23.7	125,700	23.7	100.0
	1991	229,200	127.4	88,200	15.9	317,400	79.4	100.0	44,100	77.1	273,300	117.4	273,300	117.4	100.0
	2001	290,900	26.9	104,000	17.9	394,900	24.4	100.0	66,600	51.0	357,500	30.8	357,500	30.8	100.0
	2011	298,000	2.4	105,800	1.7	403,800	2.3	100.0	65,800	-1.2	363,800	1.8	363,800	1.8	100.0

^a Includes personal-use trucks.

Source: SEWRPC

External personal vehicle person trips decreased from 191,700 in 1963 to 176,900 in 1972, a decrease of 8 percent. External personal vehicle person trips then increased to 317,400 in 1991 (79 percent), to 394,900 trips in 2001 (24 percent), and to 403,800 trips in 2011 (2 percent). External personal vehicle trips, however, exhibited uniform increases, from 85,600 in 1963 to 100,800 in 1972 (18 percent), to 229,000 in 1991 (127 percent), to 290,900 in 2001 (27 percent), and to 298,000 in 2011 (2 percent). As shown in Table 5.19, the vehicle occupancy of external personal vehicle person trips has declined from 2.24 persons per vehicle in 1963, to 1.75 in 1972, to 1.38 in 1991, and to 1.36 in 2001. Vehicle occupancy of external personal vehicle trips remained unchanged between 2001 and 2011 at 1.36.

Through 2001, growth in external person trips occurred across all trip purposes, with the greatest growth in external person trips occurring with respect to work and school trips. The 2011 inventory, while showing an overall increase in total person trips, showed a 10 percent decline in home-based work trips and a 13 percent decline in nonhome-based trips. The volume of external commercial truck trips, as shown in Table 5.20, increased from 15,300 trips per day in 1963 to 22,500 trips per day in 1972, an increase of 47 percent. From 1972 to 1991, such trips increased from 22,500 trips per day to 44,100 trips per day, an increase of 96 percent. From 1991 to 2001, such trips increased from 44,100 trips per day to 66,600 trips per day, an increase of 51 percent. From 2001 to 2011, trips modestly decreased from 66,600 trips per day to 65,800 trips per day, a decrease of 1 percent. This decline in commercial external travel is likely related to the economic downturn that occurred between 2001 and 2011.

Mass Transit User Survey

The Commission conducted special surveys of transit passengers on the public transit systems operated by the Cities of Kenosha, Racine, and Waukesha, and Counties of Milwaukee, Ozaukee, Washington, and Waukesha. Transit passengers on the commuter transit route between the Cities of Milwaukee, Racine, and Kenosha were also surveyed. The principal purpose of these surveys was to obtain descriptions of the socioeconomic and travel characteristics of the ridership of the overall regional mass transit system.

As Table 5.21 shows, overall, home-based work and school trips constituted the majority of bus passenger travel on the transit systems in 2011, similar to 2001, 1991, and 1972. Between 2001 and 2011, school trips as a proportion of total transit passenger trips declined in each of the transit systems while the proportion of home-based work trips increased.

Table 5.22 presents the distribution of bus passenger travel on the transit systems as reported in the 1972, 1991, 2001, and 2011 surveys by sex, age, annual household income, and race.

- Female passengers made the majority of trips on all systems in all years with the exception of the Milwaukee-Racine-Kenosha transit service in 2001 and 2011, the Ozaukee County transit system in 2001 and 2011, and the Washington County transit system in 2001. From 1972 to 2011, the percentage of male passengers has generally been increasing and approaching 50 percent.
- The largest portion of 2011 bus passenger trips consisted of passengers 16 through 24 years of age on all transit systems, with the exception of the Ozaukee, Washington, and Waukesha County transit systems. On the Ozaukee and Washington County systems, the largest portion of

Table 5.19
Average Weekday External Personal Vehicle Trips and Vehicle Occupancy
in the Region by Trip Purpose: 1963, 1972, 1991, 2001, and 2011

Year	Trip Purpose	Personal Vehicle Driver Trips		Total Personal Vehicle Person Trips		Vehicle Occupancy
		Number	Percent of Total	Number	Percent	
1963	Home-Based Work	24,600	28.7	36,900	19.2	1.50
	Home-Based Shopping	5,200	6.1	12,300	6.4	2.37
	Home-Base Other	45,000	52.6	121,600	63.5	2.70
	Nonhome-Based	9,400	11.0	18,200	9.5	1.94
	School	1,400	1.6	2,700	1.4	1.93
	Total		85,600	100.0	191,700	100.0
1972	Home-Based Work	36,700	36.4	49,400	27.9	1.35
	Home-Based Shopping	7,200	7.1	15,100	8.5	2.10
	Home-Base Other	41,000	40.7	87,900	49.7	2.14
	Nonhome-Based	12,300	12.2	18,700	10.6	1.52
	School	3,600	3.6	5,800	3.3	1.61
	Total		100,800	100.0	176,900	100.0
1991	Home-Based Work	112,900	49.3	129,600	40.8	1.15
	Home-Based Shopping	15,700	6.8	26,200	8.2	1.67
	Home-Base Other	59,800	26.1	106,300	33.5	1.78
	Nonhome-Based	33,200	14.5	44,300	14.0	1.33
	School	7,600	3.3	11,000	3.5	1.45
	Total		229,200	100.0	317,400	100.0
2001	Home-Based Work	152,200	52.4	170,800	43.3	1.12
	Home-Based Shopping	17,200	5.9	27,200	6.9	1.58
	Home-Base Other	82,100	28.2	140,600	35.6	1.71
	Nonhome-Based	27,100	9.3	38,000	9.6	1.40
	School	12,300	4.2	18,300	4.6	1.49
	Total		290,900	100.0	394,900	100.0
2011	Home-Based Work	138,900	46.6	153,500	38.0	1.11
	Home-Based Shopping	21,700	7.3	31,600	7.8	1.46
	Home-Base Other	101,600	34.1	167,300	41.5	1.65
	Nonhome-Based	25,400	8.5	33,200	8.2	1.31
	School	10,400	3.5	18,200	4.5	1.75
	Total		298,000	100.0	403,800	100.0

Source: SEWRPC

bus passenger trips in 2011 was made by passengers 45 to 54 years of age. On the Waukesha County system, the largest portion of bus passenger trips in 2011 was made by passengers 55 to 64 years of age.

- With respect to household income, in each of the surveys—1972, 1991, 2001, and 2011—the largest portion of public transit passengers are in the lowest range of income, with the exception of the Waukesha, Ozaukee, and Washington County transit systems.
- With respect to race, public transit passengers in 2011 were about 60 percent minority on the City of Kenosha, Milwaukee County, City of Racine, and Milwaukee-Racine-Kenosha transit systems. The percentage of minority passengers on the City of Waukesha, Ozaukee County, Washington County, and Waukesha County transit systems were 32, 13, 7, and 13 percent, respectively. The proportion of public transit passengers that are minorities has increased since 1991, and particularly since 1972 when less than 5 to 15 percent of transit passengers were minorities.

Most passengers on the Region's major transit systems in 2011 were minority (about 60%) and from households with incomes under \$30,000 (about 70-80%).

Table 5.20
Distribution of Average Weekday External Commercial Truck Trips in the Region by
Destination Trip Purpose: 1963, 1972, 1991, 2001, and 2011

Trip Purpose	1963		1972		1991		2001		2011	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Base of Operations	4,200	27.5	9,400	41.8	17,600	39.9	13,500	20.3	17,700	26.9
Work-Connected Business	700	4.6	3,200	14.2	9,700	22.0	26,200	39.3	10,400	15.8
Pick-Up/Delivery of Goods	10,100	66.0	9,800	43.6	15,300	34.7	25,600	38.4	36,100	54.9
Customer Service	300	2.0	100	0.4	1,500	3.4	1,300	2.0	1,600	2.4
Total	15,300	100.0	22,500	100.0	44,100	100.0	66,600	100.0	65,800	100.0

Trip Purpose	Change: 1963-2011		Change: 1972-2011		Change: 1991-2011		Change: 2001-2011	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Base of Operations	13,500	321.4	8,300	88.3	100	0.6	4,200	31.1
Work-Connected Business	9,700	1,385.7	7,200	225.0	700	7.2	-15,800	-60.3
Pick-Up/Delivery of Goods	26,000	257.4	26,300	268.4	20,800	135.9	10,500	41.0
Customer Service	--	--	1,500	1,500.0	100	6.7	300	23.1
Total	50,500	330.1	43,300	192.4	21,700	49.2	-800	-1.2

Source: SEWRPC

Table 5.21
Percentage Distribution of Average Weekday Bus Passenger Trips in the Region
by Trip Purpose and Transit System: 1972, 1991, 2001, and 2011

Trip Purpose	Milwaukee						
	Percent of Trips				Percent Change		
	1972	1991	2001	2011 ^a	1972-2011	1991-2011	2001-2011
Home-Based Work	56.8	26.4	42.8	68.9	21.3	160.9	60.9
Home-Based Shopping	6.5	9.6	8.4	6.1	-6.0	-36.4	-27.3
Home-Based Other	12.5	17.3	16.8	5.8	-53.4	-66.3	-65.3
Nonhome-Based	4.7	7.0	7.9	7.5	59.4	7.0	-5.2
School	19.5	39.7	24.1	11.7	-40.0	-70.5	-51.5
Total	100.0	100.0	100.0	100.0	--	--	--
Trip Purpose	Racine						
	Percent of Trips				Percent Change		
	1972	1991	2001	2011	1972-2011	1991-2011	2001-2011
Home-Based Work	42.2	25.0	39.4	61.7	63.2	175.5	74.8
Home-Based Shopping	11.2	8.6	9.6	10.4	-45.4	-29.0	-36.4
Home-Based Other	19.9	23.3	21.1	9.5	-70.7	-75.0	-72.4
Nonhome-Based	3.9	10.6	5.2	8.8	92.1	-29.3	44.1
School	22.8	32.5	24.7	9.5	-48.7	-64.0	-52.7
Total	100.0	100.0	100.0	100.0	--	--	--
Trip Purpose	Waukesha						
	Percent of Trips				Percent Change		
	1972	1991	2001	2011	1972-2011	1991-2011	2001-2011
Home-Based Work	35.5	29.0	34.6	62.8	77.0	116.6	81.6
Home-Based Shopping	10.3	5.7	14.1	12.5	21.6	119.8	-11.2
Home-Based Other	13.1	10.0	12.5	5.8	-55.5	-41.7	-53.3
Nonhome-Based	0.0	4.4	9.7	6.5	--	46.6	-33.5
School	41.1	50.9	29.1	12.4	-69.9	-75.7	-57.5
Total	100.0	100.0	100.0	100.0	--	--	--
Trip Purpose	Kenosha						
	Percent of Trips				Percent Change		
	1972 ^b	1991	2001	2011 ^a	1972-2011	1991-2011	2001-2011
Home-Based Work	26.5	16.4	15.8	38.2	137.0	283.0	297.6
Home-Based Shopping	12.3	8.0	6.6	3.5	1.8	56.6	89.8
Home-Based Other	19.8	13.7	8.4	3.0	-70.5	-57.4	-30.6
Nonhome-Based	3.7	5.1	4.4	3.2	74.3	26.5	46.6
School	37.7	56.8	64.8	52.1	-67.2	-78.2	-80.9
Total	100.0	100.0	100.0	100.0	--	--	--

Table continued on next page.

Interregional Passenger Travel

Table 5.23 displays an estimate of existing and historic interregional person trips, including personal vehicle travel as presented earlier in this chapter and travel on other modes. Other modes include intercity rail and bus, commercial air carrier, and car ferry. Interregional travel by personal vehicle has consistently accounted for about 95 percent of Southeastern Wisconsin's total interregional travel over the past 50 years.

5.3 SUMMARY AND CONCLUSIONS

The Commission's comprehensive inventories of travel conducted in 1963, 1972, 1991, 2001, and 2011 describe in detail the total travel pattern of the Region and each of its component parts. This chapter has presented, in summary form, the basic findings of the 2011 Commission inventory of travel within the Region. In order to assess any changes occurring in travel habits and patterns within the Region over time, comparisons have been made between the findings of the 2011 inventory and those of earlier Commission travel inventories of 1963, 1972, 1991, and 2001. The Commission travel

**Table 5.21
(Continued)**

Trip Purpose	Waukesha-Milwaukee						
	Percent of Trips				Percent Change		
	1972	1991	2001	2011	1972-2011	1991-2011	2001-2011
Home-Based Work	72.0	71.2	74.9	93.6	30.0	31.4	24.9
Home-Based Shopping	12.2	6.9	0.0	0.0	-100.0	-100.0	--
Home-Based Other	4.1	4.8	2.2	0.9	-77.0	-80.3	-57.1
Nonhome-Based	4.6	5.4	1.5	4.3	-7.6	-21.3	183.4
School	7.1	11.7	21.4	1.2	-82.7	-89.5	-94.3
Total	100.0	100.0	100.0	100.0	--	--	--
Trip Purpose	Milwaukee-Racine-Kenosha ^c						
	Percent of Trips			Percent Change			
	1991	2001	2011	1991-2011	2001-2011		
Home-Based Work	53.8	48.0	80.4	275.3	73.9		
Home-Based Shopping	1.4	13.3	0.0	-100.0	-100.0		
Home-Based Other	14.0	25.3	6.4	-101.7	-93.3		
Nonhome-Based	9.1	9.8	5.6	-97.7	-53.3		
School	21.7	3.6	7.7	-101.3	-94.3		
Total	100.0	100.0	100.0	--	--		
Trip Purpose	Ozaukee ^d			Washington ^d			
	Percent of Trips		Percent Change	Percent of Trips		Percent Change	
	2001	2011	2001-2011	2001	2011	2001-2011	
Home-Based Work	91.5	99.3	8.6	91.3	96.6	8.8	
Home-Based Shopping	0.0	0.0	--	0.4	0.0	-100.0	
Home-Based Other	2.8	0.7	-76.2	0.0	0.0	--	
Nonhome-Based	1.6	0.0	-100.0	2.6	1.3	-100.0	
School	4.1	0.0	-100.0	5.7	2.1	-100.0	
Total	100.0	100.0	--	100.0	100.0	--	

^a Some or all of the school "trippers," or bus runs designed to accommodate school-aged children, were not surveyed. Estimates of travel for the missing school "tripper" routes are accounted for in the school trip purpose utilizing ridership estimates for these routes based on year 2012 National Transit Database data.

^b Excludes school "trippers," or bus runs designed to accommodate school-aged children.

^c Service not provided in 1972.

^d Service not provided in 1972 or in 1991.

Source: SEWRPC

surveys conducted for 1963, 1972, 1991, 2001, and 2011 demonstrate that travel is an orderly, regular, and measurable occurrence, with recognizable travel patterns.

- On an average weekday in 2011, about 6.7 million person trips were made within the Region. This represents an increase from 1963 of 2.5 million person trips, or 60 percent. The increase in regional tripmaking reflects the increases in the number of households in the Region of 67 percent from 1963 to 2011, as well as the increases in employment of 69 percent from 1963 to 2011 (See Figure 5.6). The increases in person trips in the Region were substantially greater than the increase in the resident population of the Region (23 percent from 1963 to 2011). However, the decade between 2001 and 2011 differed from the long-term trend as person trips decreased by 2 percent. The decrease in tripmaking between 2001 and 2011 may in part be attributed to the decrease in employment by 1 percent and the decrease in median family income by 11 percent, which had also occurred over the same time period. Even with the recent modest declines in tripmaking and employment, future levels of households and employment should be considered indicators of potential future travel growth.

Table 5.22
Percentage Distribution of Average Weekday Bus Passenger Travel in the Region
by Transit System and Selected Characteristics of Transit Users: 1972, 1991, 2001, and 2011

Selected Characteristics	Percent of Trips by Transit System: 1972				
	Milwaukee	Racine	Waukesha ^a	Kenosha ^a	Waukesha-Milwaukee
Sex					
Male	27.7	20.1	7.7	29.1	38.2
Female	72.3	79.9	92.3	70.9	61.8
Total	100.0	100.0	100.0	100.0	100.0
Age					
One to 15	7.2	10.5	4.0	11.2	--
16 to 24	31.8	29.8	43.0	35.7	20.6
25 to 54	38.7	31.5	31.0	21.7	47.8
55 to 64	15.0	14.6	11.7	11.3	24.1
65 or Older	7.3	13.6	10.3	20.1	7.5
Total	100.0	100.0	100.0	100.0	100.0
Household Income (Actual Dollars)					
Under 8,000	50.0	54.7	28.6	54.0	24.9
8,000 to 11,999	26.9	23.3	42.3	19.9	26.8
12,000 to 14,999	12.3	11.0	12.9	14.6	19.9
15,000 or Over	10.8	11.0	16.2	11.5	28.4
Total	100.0	100.0	100.0	100.0	100.0
Race					
Black/African American	12.3	8.8	--	2.4	--
White	85.3	87.6	93.5	96.0	97.5
Other Minority	2.4	3.6	6.5	1.6	2.5
Total	100.0	100.0	100.0	100.0	100.0

Selected Characteristics	Percent of Trips by Transit System: 1991					
	Milwaukee	Racine	Waukesha	Kenosha	Waukesha-Milwaukee	Milwaukee-Racine-Kenosha ^b
Sex						
Male	38.1	38.2	43.3	39.3	37.3	46.9
Female	61.9	61.8	56.7	60.7	62.7	53.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Age						
One to 15	4.9	15.4	32.4	25.4	3.0	--
16 to 24	31.3	35.9	27.3	33.9	20.7	17.1
25 to 54	52.2	39.1	28.3	26.3	62.3	73.1
55 to 64	6.3	3.9	6.2	5.0	11.8	4.4
65 or Older	5.3	5.7	5.8	9.4	2.2	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Household Income (Actual Dollars)						
Under 20,000	50.3	62.7	54.1	55.6	18.3	33.9
20,000 to 29,999	20.7	15.2	12.3	13.3	17.1	25.1
30,000 to 49,999	20.1	17.2	17.8	18.1	29.7	30.1
50,000 or Over	8.9	6.9	15.8	13.0	34.9	10.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Race						
Black/African American	30.6	39.9	4.5	13.7	4.2	18.8
White	63.3	49.7	84.1	77.5	90.3	68.8
Other Minority	6.1	10.4	11.4	8.8	5.5	12.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

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Table 5.22 (Continued)

Selected Characteristics	Percent of Trips by Transit System: 2001							
	Milwaukee	Racine	Waukesha	Kenosha	Waukesha-Milwaukee	Milwaukee-Racine-Kenosha ^b	Ozaukee ^c	Washington ^c
Sex								
Male	40.2	41.4	48.2	39.1	41.9	54.0	57.2	60.3
Female	59.8	58.6	51.8	60.9	58.1	46.0	42.8	39.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Age								
One to 15	4.3	9.2	19.8	39.4	0.5	- -	3.0	2.0
16 to 24	35.6	33.2	22.6	27.8	24.4	5.6	13.4	14.6
25 to 54	51.2	47.9	45.0	24.6	62.3	72.4	68.9	77.7
55 to 64	5.5	5.4	6.5	3.0	11.7	15.4	11.4	4.9
65 or Older	3.4	4.3	6.1	5.2	1.1	6.6	3.3	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Household Income (Actual Dollars)								
Under 30,000	68.4	74.0	66.7	61.3	14.8	62.4	45.6	39.1
30,000 to 49,999	19.0	18.9	19.3	21.1	17.2	12.9	26.7	25.3
50,000 or Over	12.6	7.1	14.0	17.6	68.0	24.7	27.7	35.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Race								
Black/African American	49.1	48.6	9.5	18.7	5.6	42.0	38.0	23.2
White	41.4	47.8	78.2	69.5	87.8	48.9	59.7	53.5
Other Minority	9.5	3.6	12.3	11.8	6.6	9.1	2.3	23.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Selected Characteristics	Percent of Trips by Transit System: 2011							
	Milwaukee ^a	Racine	Waukesha	Kenosha ^a	Waukesha-Milwaukee	Milwaukee-Racine-Kenosha ^b	Ozaukee ^c	Washington ^c
Sex								
Male	44.0	38.6	45.1	37.5	43.5	65.3	52.4	37.9
Female	56.0	61.4	54.9	62.5	56.5	34.7	47.6	62.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Age								
One to 15	4.0	14.8	8.9	20.9	- -	- -	0.7	1.3
16 to 24	41.4	28.6	23.3	35.5	11.6	33.9	11.6	10.4
25 to 34	20.9	14.1	18.5	12.0	18.5	16.6	14.2	10.1
35 to 44	10.9	15.1	13.7	12.3	14.2	16.3	17.0	15.0
45 to 54	11.4	15.5	13.4	10.1	23.3	18.2	31.1	33.8
55 to 64	8.3	8.9	15.2	5.8	28.2	15.0	24.4	25.3
65 or Older	3.1	3.0	7.0	3.4	4.2	- -	1.0	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Household Income (Actual Dollars)								
Under 30,000	68.0	79.8	69.5	76.7	9.6	54.7	15.6	8.0
30,000 to 49,999	17.4	12.4	15.2	9.1	9.5	18.3	8.7	11.3
50,000 or Over	14.6	7.8	15.3	14.2	80.9	40.1	75.7	80.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Race								
Black/African American	44.9	45.2	14.2	38.1	2.3	45.5	4.4	0.7
White	39.8	38.6	67.6	41.8	87.4	38.3	86.5	93.2
Other Minority	15.4	16.2	18.1	20.1	10.3	16.2	9.1	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^a Excludes school "trippers," or bus runs designed to accommodate school-aged children.

^b Service not provided in 1972.

^c Service not provided in 1972 or 1991.

Source: SEWRPC

Table 5.23
Number of Average Weekday Interregional Person Trips on
Intercity Modes in the Region: 1963, 1972, 1993, 2001, and 2011

Mode	1963		1972		1993		2001		2011	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Intercity Motor Bus	2,000	1.0	1,300	0.7	1,300	0.4	1,200	0.3	1,600	0.4
Intercity Rail	4,000	2.0	900	0.3	1,800	0.5	1,900	0.4	2,800	0.6
Cross-Lake Car Ferry	1,200	0.6	700	0.4	--	--	--	--	300	0.1
Commercial Air Carrier	2,600	1.3	6,200 ^a	3.3	12,600 ^b	3.8	16,400	4.0	18,800	4.4
Personal Vehicle	191,700	95.1	176,900	95.1	317,400 ^c	95.3	394,900	95.3	403,800	94.5
Total	201,500	100.0	186,000	100.0	333,100	100.0	414,400	100.0	427,300	100.0

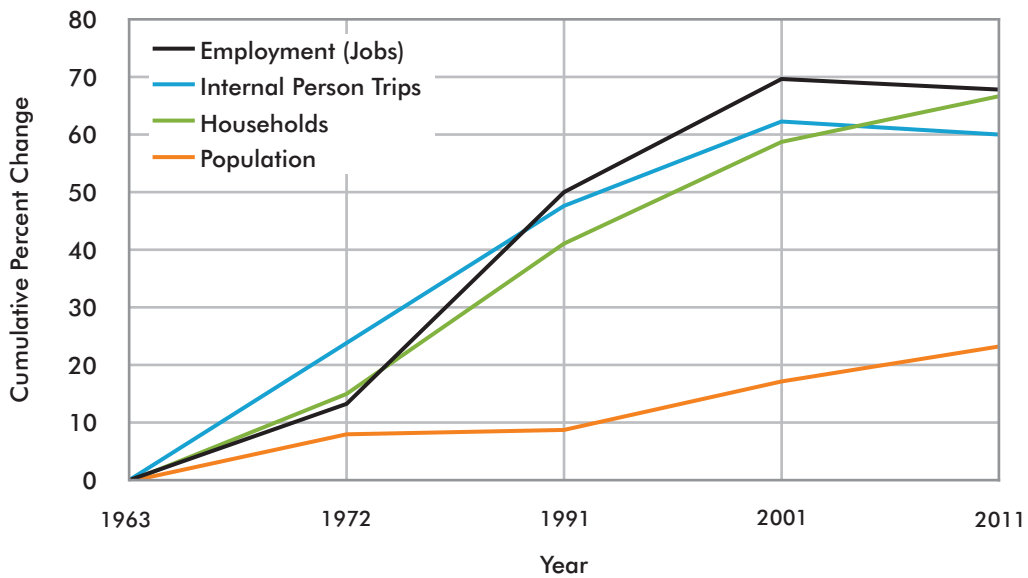
^a Survey taken in 1971.

^b Survey taken in 1989.

^c Survey taken in 1991.

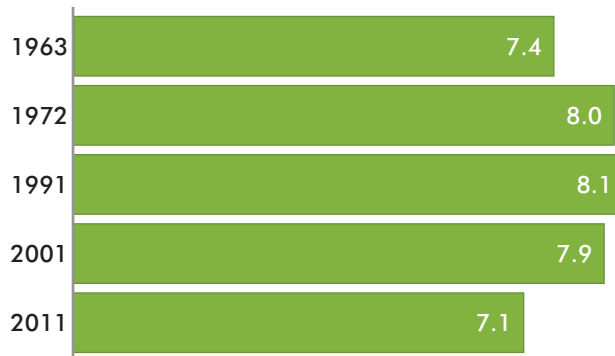
Source: SEWRPC

Figure 5.6
Comparison of Cumulative Changes in Person Trips, Population,
Households, and Employment Relative to 1963 Levels in the Region



Source: SEWRPC

Figure 5.7
Total Average Weekday Internal Person Trips per Household
in the Region: 1963, 1972, 1991, 2001, and 2011

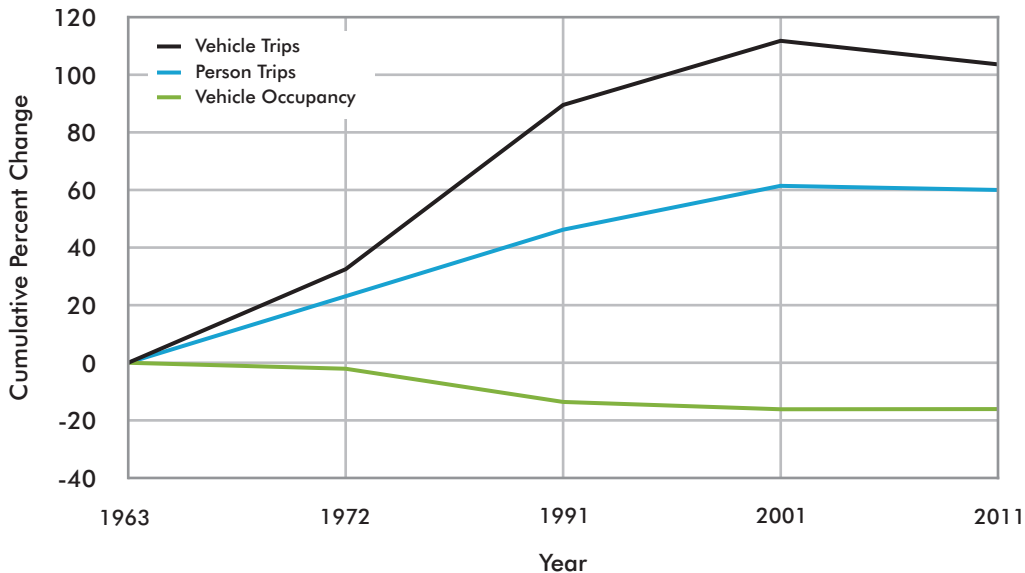


Source: SEWRPC

- While the number of internal person trips per household in the Region between 1972 and 2001 had remained relatively constant at about eight trips per household, the decade between 2001 and 2011 differed from this long-term trend as the number of trips per household declined from about eight trips per household to about seven trips per household (See Figure 5.7). The decline in employment and in median family income may have contributed in part to this reduction. The level of average weekday internal person trips per capita, however, has increased from slightly greater than two trips per capita in 1963 to slightly greater than three trips per capita in 2011. The stability in the household trip rate occurred even with the substantial socioeconomic, land use, and transportation changes that have occurred in the Region over the last 50 years. These changes include the shift from a manufacturing to a service economy, the increase in labor force participation among women, the change in age composition of the Region, the change in average household size in the Region, the increase in vehicle ownership, and the change in land use density of the Region.
- On an average weekday in 2011, nearly 5.2 million vehicle trips were made within the Region. This represents an increase of about 2.7 million vehicle trips, or 104 percent, from 1963 (See Figure 5.8). The increase in vehicle trips from 1963 to 2011 is more substantial than the increase in person trips, specifically, an increase of 2.7 million vehicle trips and of 2.5 million person trips over the 48-year period. The principal factor contributing to the more rapid increase in vehicle trips is the decline in average vehicle occupancy (carpooling) observed in the surveys, from 1.42 persons per vehicle in 1963 to 1.20 persons per vehicle in 2011 with respect to all trips and from 1.21 persons per vehicle in 1963 to 1.06 persons per vehicle in 2011 for work trips. However, similar to person trips, the decade between 2001 and 2011 differed from previous decades as the vehicle trips decreased by 4 percent. The average vehicle occupancy also increased slightly from 1.19 to 1.20 persons per vehicle over the same time period. Vehicle tripmaking may not be expected to increase significantly faster

Figure 5.8

Comparison of Cumulative Changes in Vehicle Trips, Person Trips, and Vehicle Occupancy Relative to 1963 in the Region

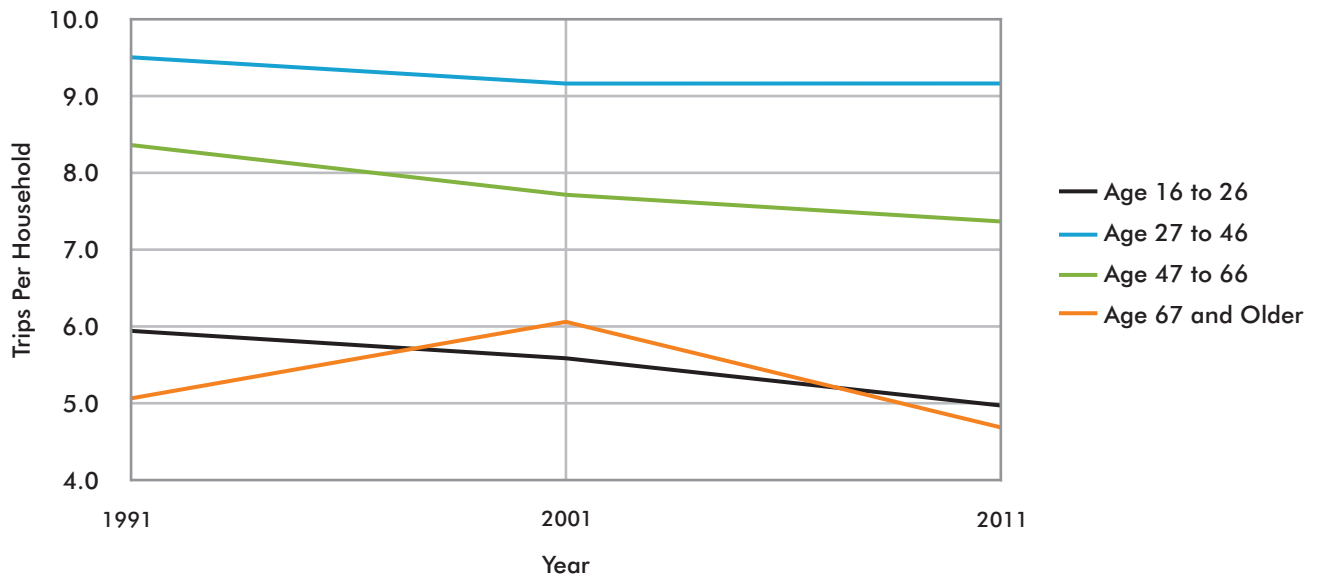


Source: SEWRPC

than person tripmaking in the future as a result of declining vehicle occupancy, because vehicle occupancy is expected to no longer experience declines of the magnitude exhibited historically.

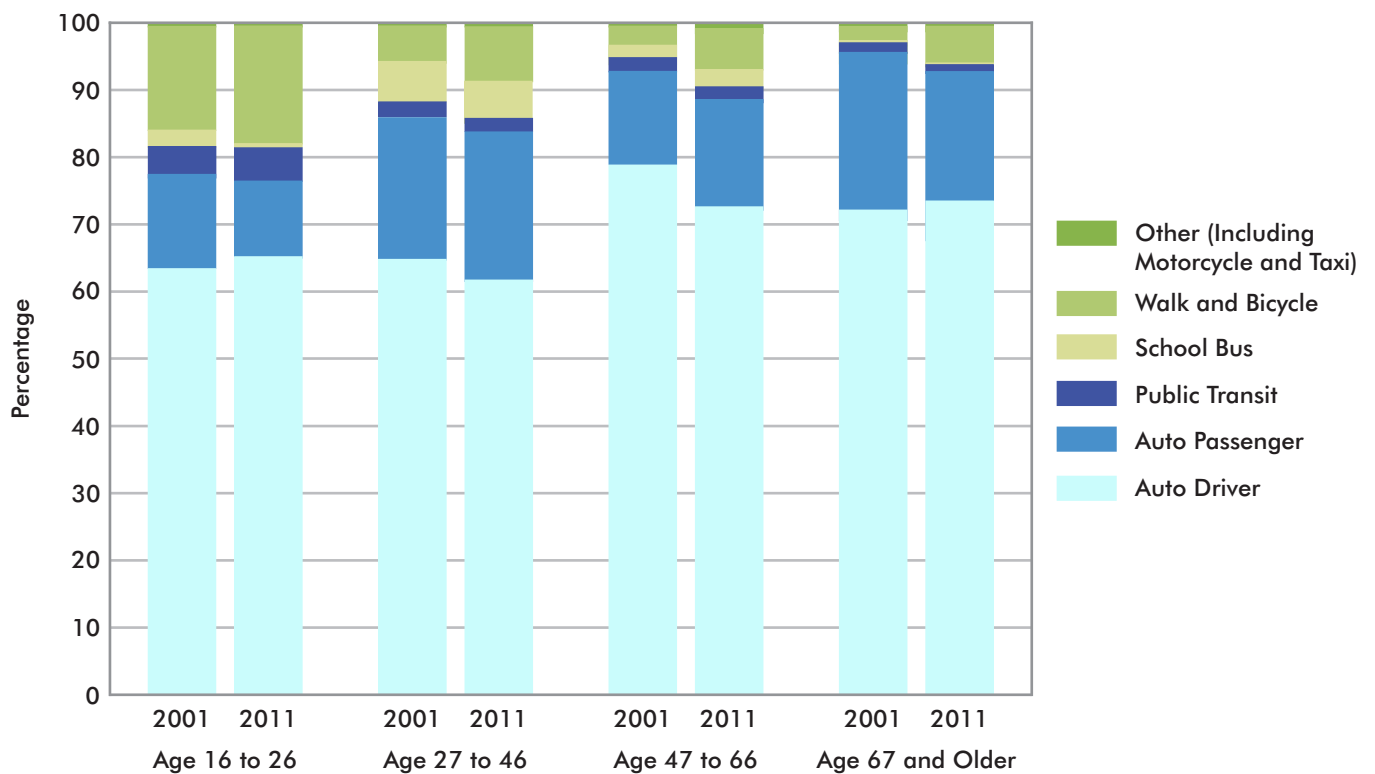
- There has been a modest decrease in household trip rates since 1991, and particularly since 2001 (See Figure 5.9). Also, there has been a significant increase in pedestrian and bicycling trips since 2001. These changes were experienced across all age categories (See Figure 5.10). Survey data indicate that the behavioral difference in travel between generations appears to be relatively stable over time. As such, there does not appear to be one generation that is significantly driving the changes in travel as compared to other generations. As households age they have exhibited similar travel behaviors as their predecessors.
- On an average weekday in 2011, 40.9 million vehicle-miles of travel (VMT) occurred within the Region as a result of the 5.2 million vehicle trips. The historic increases in VMT from 13.1 million in 1963, to 20.1 million in 1972, to 33.1 million in 1991, to 39.7 million in 2001, and to 40.9 million in 2011—a total of 212 percent—have been more rapid than the corresponding historic increases in total person tripmaking and vehicle tripmaking. A contributing factor to the more substantial increases in VMT has been an increase in the average length of internal person trips from 4.7 miles in 1963, to 5.4 miles in 1972, to 6.8 miles in 1991, to 6.8 miles in 2001, and to 7.1 miles in 2011—an increase of about 52 percent from 1963 to 2011. Thus, the 212 percent increase in highway traffic in the Region from 1963 to 2011 has been the result only in part of demographic and economic growth and change and related person tripmaking. Only about 50 percent of the growth in highway traffic over the past 50 years may be attributed to increased tripmaking as a result of demographic and

Figure 5.9
Average Weekday Internal Person Trips per Household in the Region by Age of Head of Household: 1991, 2001, and 2011



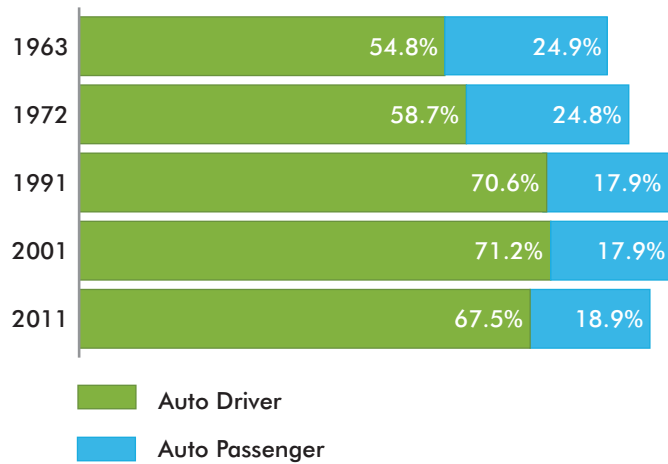
Source: SEWRPC

Figure 5.10
Comparison of the Percentage of Average Weekday Internal Person Trips in the Region by Mode of Travel and by Head of Household: 2001 and 2011



Source: SEWRPC

Figure 5.11
Percentage of Average Weekday Internal Person
Trips in the Region by Automobile: 1963-2011

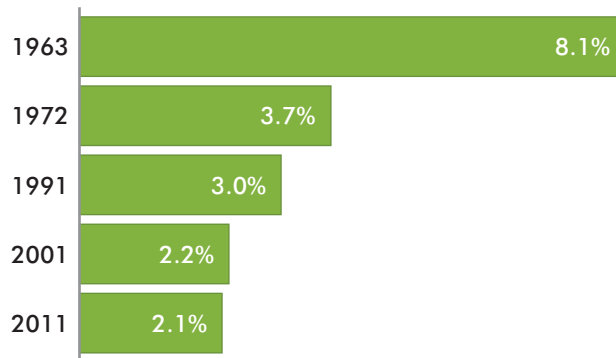


Source: SEWRPC

economic growth and change. The remaining 50 percent may be attributed to the decline in vehicle occupancy and carpooling and the increase in trip length.

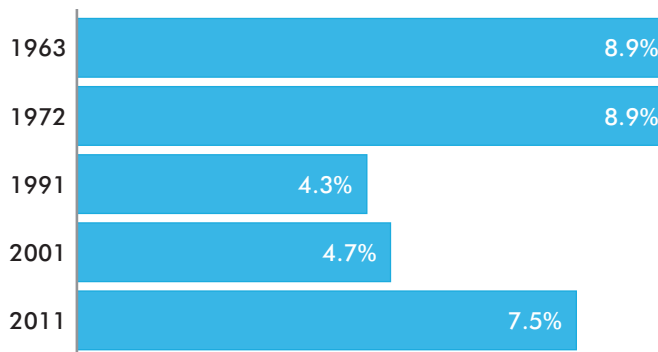
- In 2011 and in each survey year, about 93 percent of the person and vehicle trips made within the Region on an average weekday were made by residents of the Region. Therefore, the location and capacity of future transportation facilities will largely be based upon the patterns of travel of the Region's residents.
- The number of personal vehicles—automobiles, vans, sport utility vehicles, and pickup trucks—available to residents of the Region increased from about 527,000 in 1963 to 705,000 in 1972, to 1,142,500 in 1991, to 1,313,900 in 2001, and to 1,371,900 in 2011—an increase of 160 percent from 1963 to 2011. The percentage of total households in the Region having two or more personal vehicles available increased from 24 percent in 1963 to 34 percent in 1972, and to 56 percent in 1991, 2001, and 2011, while the percentage of total households having no personal vehicle available decreased from 17 percent in 1963 to 16 percent in 1972, and to 9 percent in 1991, 2001, and 2011. While steadily declining between the 1963 and 2001 travel surveys, the decade between 2001 and 2011 differed from the previous decade as the percentage of households with no personal vehicle available modestly increased from 8.5 percent to 9.0 percent.
- Automobile travel increased from about 80 percent of all internal person travel in the Region in 1963 to 84 percent in 1972, and to 89 percent in 1991 and 2001. However, the decade between 2001 and 2011 differed from previous decades as automobile travel decreased to 86 percent of all internal person travel in 2011 (See Figure 5.11).
- Public transit travel decreased from about 8 percent of total internal person travel in 1963 to 4 percent in 1972, to 3 percent in 1991, and to 2 percent in 2001 and 2011 (See Figure 5.12). Average weekday

Figure 5.12
Percentage of Average Weekday Internal Person
Trips in the Region by Public Transit: 1963-2011



Source: SEWRPC

Figure 5.13
Percentage of Average Weekday Internal Person Trips
in the Region by Walking or Bicycling: 1963-2011

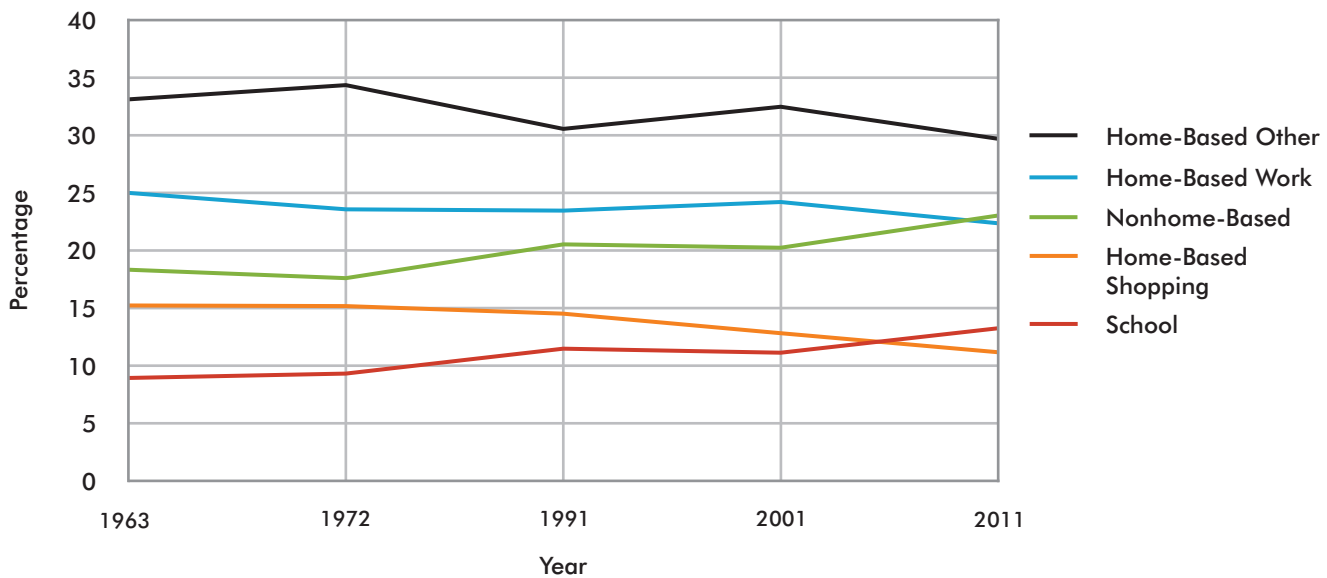


Source: SEWRPC

public transit travel decreased sharply within the Region, from 320,500 trips in 1963 to 184,200 trips in 1972, to 172,200 trips in 1991, to 142,200 trips in 2001, and to 129,100 trips in 2011. As described in more detail in Chapter 3 of this volume, the decline in transit over the last decade is a result of the reduction in transit service—rather than the expansion of the transit system recommended in the year 2035 regional transportation plan—and the increase of transit fares at an amount greater than inflation.

- Travel by walking and bicycle declined from about 9 percent of all travel in 1963 and 1972 to 4 percent of all travel in 1991. However, such travel showed an increase in 2001 to 5 percent of all travel and again in 2011 to 8 percent of all travel. Specifically, the number of internal walk and bicycle trips increased by over 50 percent between 2001 and 2011, even though total internal person trips declined by 3 percent over the same time period (See Figure 5.13).

Figure 5.14
Percentage of Average Weekday Internal Household
Person Trips in the Region by Trip Purpose: 1963-2011



Source: SEWRPC

- In each of the survey years, approximately 87 to 89 percent of total internal vehicle trips were made by personal vehicle and about 11 to 13 percent were made by commercial truck. These findings indicate that with respect to highway facilities, the principal contributor to the transportation problem within the Region is the movement of people rather than goods, particularly since personal vehicle trips display sharp concentrations during peak traffic periods, while commercial truck trips do not.
- Approximately 75 to 80 percent of total internal person trips within the Region on an average weekday in 1963, 1972, 1991, 2001 and 2011 consisted of trips made to or from places of residence. The amount and location of future residential development will affect future travel demands.
- The percentage distributions of internal person trips by trip purpose have remained very stable over the past 50 years with trips between home and work accounting for 22 to 25 percent of all internal person trips, trips between home and shopping accounting for 11 to 15 percent of trips, school trips accounting for 9 to 13 percent of all trips, trips between home and other destinations for social, recreation, and personal business purposes accounting for 30 to 34 percent of all trips, and trips between non-home origins and destinations accounting for about 18 to 23 percent of all trips (See Figure 5.14).